



FRYE'S
FIRST STEPS IN
GEOGRAPHY

— GINN & COMPANY —

FIRST STEPS IN GEOGRAPHY

BY

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"ELEMENTS OF GEOGRAPHY," "COMPLETE GEOGRAPHY,"
"GRAMMAR SCHOOL GEOGRAPHY," ETC.

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PREFACE

Plan. — This book covers the work of two school years, either the fourth and fifth or the fifth and sixth. It offers a brief course to pupils that must leave school after only two years of geography study, and it also leads by easy steps to the larger geography.

Aim. — The aim is to show man's relations to nature. These relations are traced through such broad topics as surface features, climate, products, industries, trade, states, cities, etc.

Commerce. — History follows routes of trade. For this reason commerce takes a leading place in this book. Products and industries leading to commerce are given many special maps and lessons. This is clearly shown on pages 55 to 65, where cities are treated in their industrial relations.

United States. — Every pupil should know the leading facts about his own country. A large part of this book is devoted to the United States.

Pictures. — The pictures supplement the text and are true to nature. Nearly all were engraved from photographs.

Maps. — Special attention is called to the number and variety of maps, as well as to their accuracy. For example, under North America see the shaded relief map on page 40; colored relief map and zone map on page 41; political map on page 43; plant and animal maps on pages 45 and 46. The great relief map of the United States on pages 140 to 141 is photographed from a raised model. The Philippine maps on pages 117 to 121 will be of great help in following current events.

Helps. — The "Helps" after each lesson are to guide pupils towards the leading facts, as well as to help the busy teachers. Pupils should answer questions not in the words of the book but in their own language. Teachers will be pleased to note that only in rare cases is it necessary to turn a leaf to find answers to questions.

Spelling. — In spelling and usage of geographic names the maps and text follow the rulings of the *United States Board on Geographic Names*. This book adopts the best modern usage and allows the capital letter in *specific names*, such as Rhine and Andes, but not in common *class names*, such as river and mountains, — thus, Rhine river, Andes mountains.

Sizes of type. — The text in small type gives explanations or interesting details and does not call for such close study as the text in larger type. Names of cities in black or heavy-faced type may be used as topics for recitation.

THE AUTHOR

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FIRST STEPS

1. Geography

We live on a great ball made of land and water. It is called the earth. It is a very large ball, and we can see only a small part of it at a time.

This book tells about this great ball and the people that live on it. Here are pictures of a few of them.

The brown girl lives in a warm land. She can weave baskets and mats. She often goes to see her brother at work in the wet fields where rice grows.

Boys of some countries have black skin and woolly hair, like the boy at the door of the tent. This boy has been hunting with his father. We shall read about the queer animals he sees.

This Indian boy is the son of a chief. He knows how to shoot with the bow and arrow, and he can ride a horse. The pretty things round his neck are made of beads.

The yellow boy has a box in his hand. It is full of tea leaves that grow near his home. Find out all you can about tea leaves.

This book tells about the people of many lands. It tells what they see and what kind of work they do. It tells what they sell to us and what we sell to them. It shows pictures of their homes, and of the plants and animals they see.

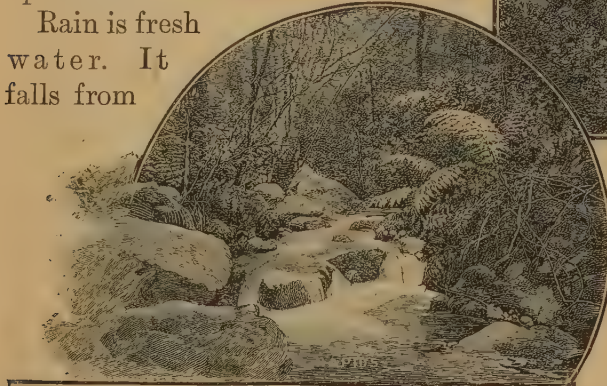
Geography is a true story of the earth and its people.

2. Rain and springs

First let us study some of the things that all people see and use. One of these is water.

Water has many uses. We need it to drink and to wash with. If plants cannot get water, they dry up and die.

Rain is fresh water. It falls from



From source to mouth

the clouds. Some of it forms *brooks*. A brook is a small stream.

Part of the rain sinks into the ground. It wets the seeds and they begin to grow. The

roots of plants take in water and it climbs up to the buds and leaves. Then they put forth blossoms, and fruits grow for us.

Part of the water in the ground flows into wells. People pump it up to use in many ways. Some of the ground water comes out and runs into brooks.

Water flowing out of the ground forms a *spring*. The water in most springs is clear and pure. We like to drink it.

Some brooks flow long after the rain stops. They are fed by water in

the ground. It creeps along and runs out into the brooks. Some brooks flow from ponds.



A waterfall

Helps. — Name some of the uses of water. Does the word “kitchen” help you to think of other uses? Does sled? — boat? — mill? — ice? — skate? — melon?

What is rain? Where does it come from? Where does it go? What is a brook? Of what use is water in the ground? Where does the water in wells come from?

What is a spring? Why do we like spring water? Have you ever seen a spring? There is a picture of a spring on page 4.

Where have you seen a brook? Where have you seen a pond?

3. Hill and valley

Find a *hill* in the picture. A hill is a mass of land that rises higher than the land around it.

See the brook on the side of the hill. The rain fills many brooks. They flow to the low land at the foot of the hill. This low land is a *valley*.

The brooks spread out and make a *pond* at the foot of the hill. The pond is in the valley. A brook flows out of the pond. We may call this brook the *outlet* of the pond.

A pond is a small body of water with land all around it, except where a stream flows in or out.

Any land that slants is a *slope*. The side of a hill or valley is a slope. Some slopes are gentle, others are steep. Brooks run swiftly down steep slopes.

Swift brooks wash away the fine soil. They carry it down into the valleys. Many valleys have deep rich soil that rain and brooks have washed from the hills.

Trees grow well in poor soil on hills. They send their roots far out in the loose soil to find water. Most plants grow best in rich soil in the low lands. There is also more water for plants in the low land. It flows down in brooks, and some of it also runs out in springs at the foot of the hills.



The rain swells the brooks and rivers

Helps. — Where have you seen a hill? Find pictures of two hills in this book. What is a hill? Try to think of some of the uses of hills.

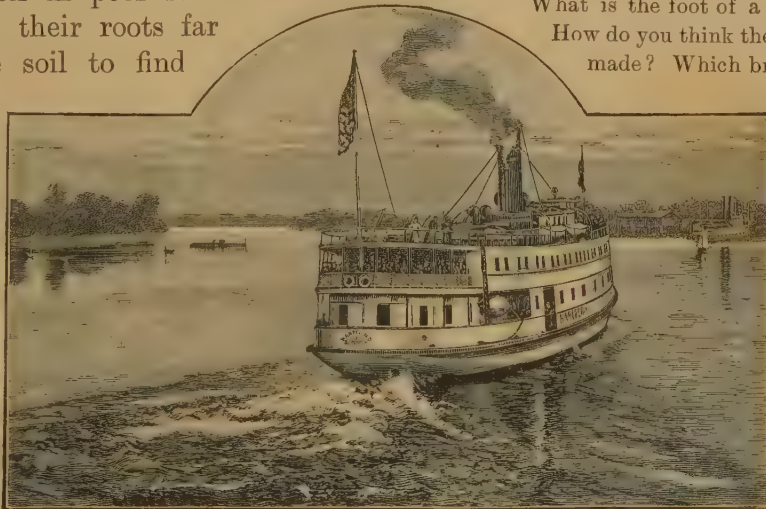
Is there a brook near your school? Where do brooks get water?

Where have you seen a valley? Find pictures of two valleys. What is a valley? How does a hill differ from a valley?

What is the foot of a hill? What is a pond? How do you think the pond in the picture was made? Which brook is the outlet?

What is a slope? Which part of the picture shows a steep slope? Which part shows a gentle slope? Would it be just as well if all the land were level?

Where do many valleys get rich soil? What brings it? Give two reasons why farms in low lands are better than many farms on the sides of hills.



A steamboat on a wide river

4. Brook and river

A *river* is like a brook but larger. It is a large stream flowing over the land. Many brooks may run together and form a river.

All rivers flow down slopes. The upper end of a river is its *head* or *source*.

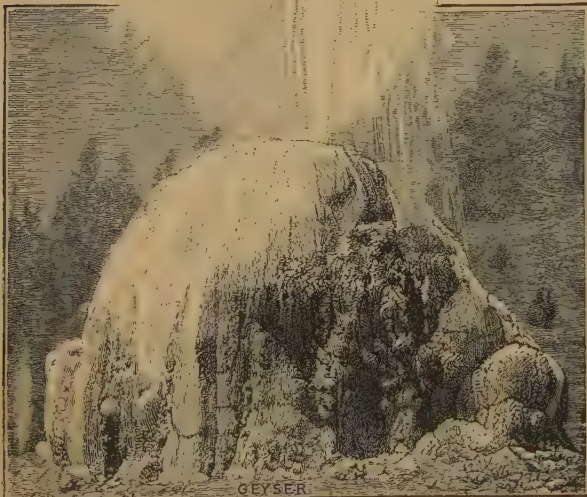
out of some lakes. Such streams are outlets. The lakes supply them with water long after the rain stops. *See picture of lake on page 12.*

The land on which a river flows is its *bed*. Some river beds are nearly level and the rivers flow slowly. If the bed is steep, the river flows swiftly and forms *rapids*. Water falling over a very steep place forms a *waterfall*.

The land along the sides of a river we call its *banks*. We must face down the stream to name its banks. Then the one on the right is the right bank, and the other is the left bank.

Each branch of a river has a source. It may be a spring, a pond or a lake. Some streams flow from hot springs. Others start from melting snow or ice. Most rivers are fed by many springs.

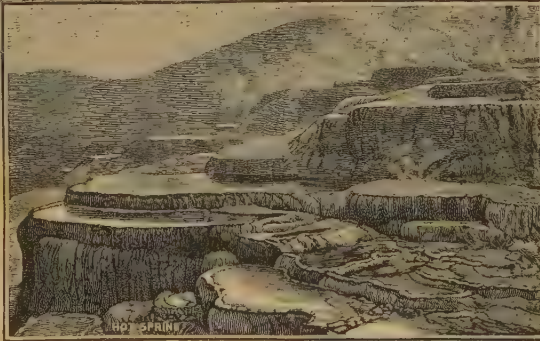
Streams often flow from many small valleys into a large valley. All the streams that meet in one valley form a *system*. A river system has a main stream and many branches. One picture on the next page shows a few of the rivers in a large system.



The lower end is its mouth.

A *lake* is like a pond but larger. It is a large body of water with land all around it, except where a stream flows in or out.

Some streams flow into small hollows and make ponds. Other streams flow into large hollows and make lakes. Streams also flow



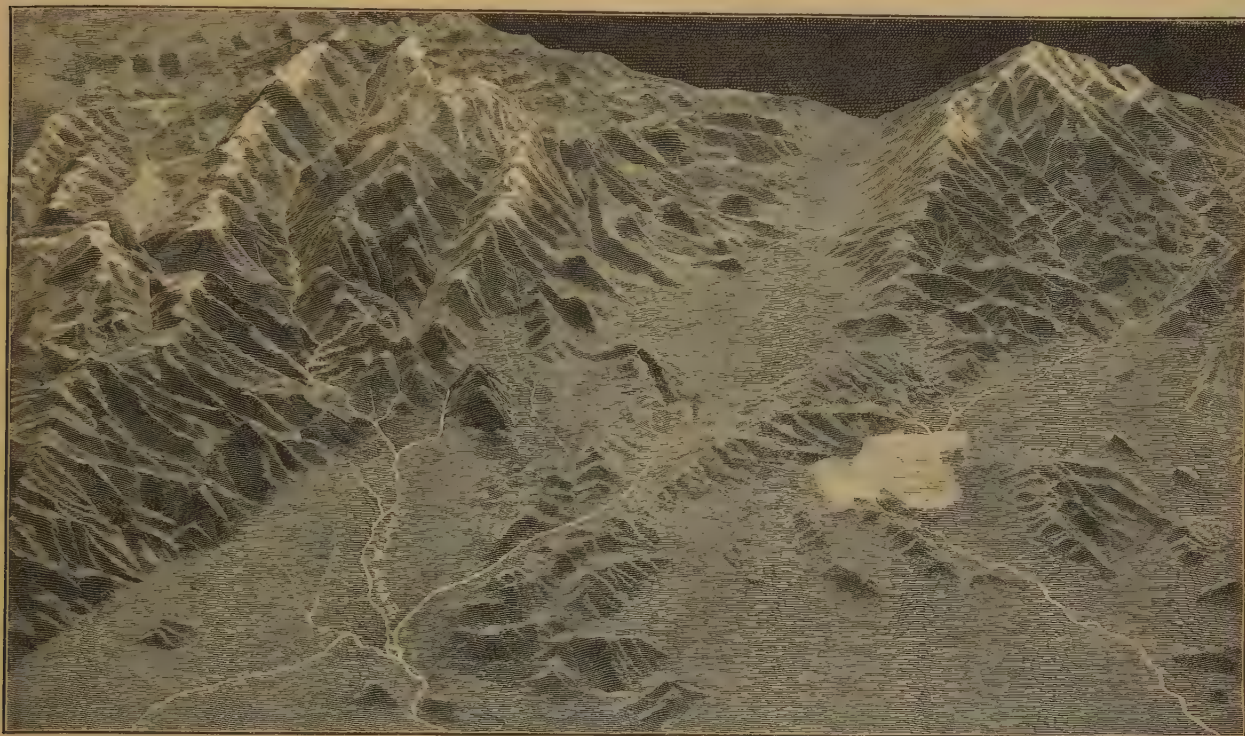
Some of the sources of streams

All the land that sends water to a river forms the *basin* of the river. A basin is made of land that slopes. Every river system is in a basin. The streams drain or carry the water away from the basin.

Helps. — What is a river? How does a river differ from a brook? How are some rivers formed?

What is the source of a river? Where is its mouth?

What is a lake? How does a lake differ from a pond? Tell how some ponds and lakes are formed. What is an outlet? Where may rivers get water when no rain is falling?



All the streams that meet in one valley form a system. All the land that sends water to a river forms its basin

Most rivers flow into a large body of salt water. It covers three fourths of the earth. We call it the *ocean*. The picture on page 22 shows a very small part of it.

Rivers and lakes are very useful. They supply towns with drinking water. Swift rivers turn mill wheels that saw wood, grind corn or make cloth.

Ships can sail on deep lakes and rivers. They carry people and freight from city to city. Ships also sail on the ocean. Fish are caught in streams and lakes as well as in the ocean.

What is the bed of a river? In what direction must every stream flow? Why do rivers wind about? Why are some rivers swift and others slow? What are rapids? What is a waterfall?

What is a river bank? Which is the left bank of a river?

What is a branch? Name three sources of streams.

What do the pictures on page 4 show about sources?

Of what is a river system formed? What name is given to the largest stream in the system? What name is given to the other streams of the system?

What is the basin of a river?

What is a basin made of?

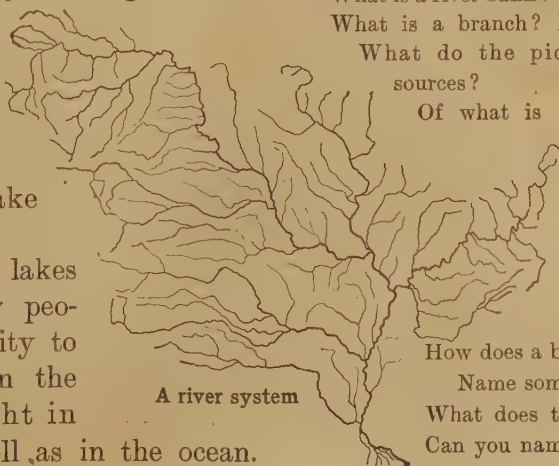
What drains a river basin?

How does a basin differ from a system?

Name some of the uses of lakes and rivers.

What does the lesson tell about the ocean?

Can you name some fish from the salt ocean?



A river system

71

5. How soil is made

Rocks decay like wood but not so fast. The rocks crumble to sand and dust, but it takes a long time for them to decay.

The wind blows dust and sand about. Raindrops wash them here and there. Brooks wash them down the slopes. Thus the little grains of sand are rubbed together and broken finer and finer.

Soil is made mostly of rocks that decay or are worn to dust. Water helps to rot the rocks. Frost cracks them and often breaks

makes dark loam. It is rich soil for the seeds and roots of other plants.

Do you know any place where ants are at work? Watch them bring out the fine earth for their little hills.

Worms grind leaves and mix them in the soil. They bring rich earth to the surface and make little mounds of it. Mounds of loam made by worms and ants are often dotted over the fields. The rain washes this rich soil down to the roots and seeds. The little earthworms are very useful to man.



A dense forest, where leaves fall and plants decay to form loam

off large pieces. The roots of plants grow into cracks and pry rocks apart.

Rocks decay fastest at the surface, where water and air can attack them. Deep in the ground the rocks decay slowly. Thus we find most of the fine soil at the top.

Plants use fine soil for food. The soil also holds rain water for a long time and gives it to the roots of plants. We cannot eat the soil, but we can eat plants that have used the soil for food.

Plants grow well in some kinds of soil. Such soil is rich or fertile. Some soil is coarse and has but little food for the roots.

When leaves fall and plants decay they give back food to the soil. They crumble to dust and mix with the other fine soil. This

Helps. — Where have you seen a tree that has begun to rot or decay? Try to find a piece of rotten wood. Cut it and see how it crumbles.

Scrape a rusty nail till you see the bright iron. Nails rust or decay very fast in wet places. Put a few nails in salt water over night. Can you think why men must paint the bottoms of iron ships?

Break open a small round stone or pebble. Which part looks brightest? Which part has begun to decay?

How is sand made? How does it differ from dust? How are little grains of rock ground finer and finer?

Name three things that help to crumble rocks. Which part of a rock begins to decay first? Why? Why cannot rocks deep in the ground decay quickly? Where does the

finest soil form? Why?

What is rich soil? Give another name for rich soil. Why do not most plants grow well in coarse soil?

What becomes of leaves that fall and plants that decay? Of what is loam made? Why is loam good soil for farms?

Tell all you can about ants. How do worms help to make the soil fertile? How does the rich soil in the mounds of ants and worms reach the roots of plants?

6. Soil and water

Find as many kinds of soil as you can. Put each in a bottle by itself.

Feel of loam and sand. Which is the finer? Which is the finer, loam or clay?

Pour some water on loam, on sand and on clay. Into which does the water sink most quickly? Which dries soonest?¹ Which remains moist longest?

¹ A small box of each will serve for the whole class to observe.

Pour some water on hard ground. Wait two minutes and find out how far the water has sunk in. Loosen a little of the hard ground and try it again. Try to find out why farmers plow the soil.

Stir some fine soil in a glass of water, and stir coarse sand in another. Let both glasses stand for a while and see what takes place. Which settles first?

Stir fine soil and coarse sand together in a glass of water and let it stand. Which settles on the other? Now stir the water in this glass very gently. Does the moving water take up the soil or the sand first?

Which do you think running water can carry farthest, sand or fine soil? Would you look for fine mud in the beds of ponds or of swift brooks? Why? When a muddy brook flows into a still pond where must the mud go?

7. How soil is carried

Light rain may all sink into the ground. But when it rains hard some of the water forms tiny streams or *rills*. Many rills may form a brook.

Most of the rills are muddy. They spread fine soil over the fields, and some of it they wash away. They even roll sand down the steep slopes.

Rills carry mud to brooks and the brooks may carry it to rivers. Now we know why brooks and rivers are muddy after a hard rain.

When a stream flows into still water the mud settles. Each rain sends down more of the mud. Heaps of mud or sand form at the mouths of all rivers that flow into still water.

Swift streams cut their banks and wash away the soil. Some of it settles in still water along the sides of the streams. Here it forms meadows. When the rivers are high they often overflow the flat meadows.

Part of the mud is carried to the mouths of the streams. There it may settle and form

mud islands. They are built highest when the water is very high. When the water is low they become dry land.

All the low land made of mud or soil at the mouth of a river is called the *delta* of the river. The soil in deltas is deep and rich. When they are dry enough they are good places for farms. Some deltas are so large that great cities are built on them.

A delta cannot form in water that flows swiftly, for the soil cannot settle.

Little by little the rain and streams wash the fine rock or soil down the slopes. Thus most slopes are slowly crumbling and wearing away.

Most of the valleys that we see were made by running water. The water has worn them away, just as it wears gullies when rain falls. Of course the work has taken a long time. Most of the hills are high places left when the water wore down the valleys. All this work is still going on very slowly.



Rivers can wear deep valleys even in rocks, and carry away the soil

Helps. — What is a rill? How does it differ from a brook? When can we see many rills?

Why are rills often muddy? What becomes of the mud they carry? Why are rivers often muddy after a heavy rain?

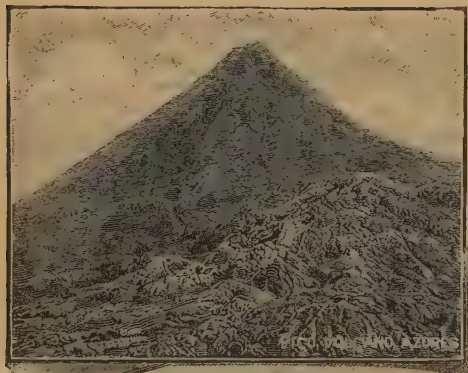
When must a brook or river lose the soil it carries? What streams form banks of mud at their mouths?

Why are many swift streams muddy? Where can the soil settle? When does the most mud settle on low fields near rivers?

Tell how rivers form islands at their mouths. What is a delta? Why are deltas good places for farms? Where does the soil of deltas come from? Why cannot deltas form where the water runs swiftly?

Why are most slopes always changing their form? How were most valleys made? How were most hills made?

Do you know of any place where rain has cut gullies or washed away soil or sand?



8. Mountain and volcano

A *mountain* is a great mass of land higher than the land near it. A mountain is like a hill but larger.

Mountains have many forms. Some have round tops. Some have sharp tops or *peaks*. Others look like the teeth of a saw. The top of a mountain is its *summit*.

In some mountains the rocks are bent. Others are made of level beds of rock. Still others are made of rocks twisted and slanted.

Rain and streams slowly cut away the sides of mountains and change their forms. The rocks crumble to soil and most of it is washed away.

Thus the soil on the steep sides is not so rich as in the valleys.

In some places the rocks are washed bare. Very steep rocky slopes are *cliffs*. Deep valleys among the hills or mountains are called *gorges* or *canyons*.

A row of mountains is a *range* or *chain*. Most of

the mountains of the earth are in long ranges or chains.

Only a few people live on the sides of mountains. The land is rough and good roads are hard to make. In some places there is enough grass for cattle and sheep, but most of the soil is poor. Can you tell why?

The tops of high mountains reach far up into the cold air. Round some peaks it is too cold to rain, but snow often falls on them from high clouds.

Snow and ice cover some mountain tops all the year. In many places great rivers of ice



Sharp peaks



Mountains have many forms

move slowly down the slopes. They creep only a few inches a day. When the ice reaches the lower and warmer valleys it melts and forms brooks or rivers.

A river of ice moving down a slope is a *glacier*.

The snow and ice that melt on mountains feed many brooks.

They may flow together and form rivers. Most of the large rivers in the world are fed in part by melting snow and ice. They flow even in dry times when no rain falls in the low lands.

Trees grow well in the coarse soil on mountains. The long roots reach far and wide for water and soil. But trees do not grow on high peaks

where snow lies all the year. On the sides of such peaks there is a line above which there is always snow. This is the *snow line*. Trees do not grow above the snow line. It is too cold. Some plants grow near the snow line, but the large trees are below. The line up to which trees grow is the *timber line*.

On the tops of the highest peaks there are only snow and bare rocks. Strong winds whistle round the peaks, whirling the snow about. Nothing lives there.

Some mountains are low and have trees to the very top. Roads are built up their sides and people like to climb them in the summer. The air is cooler than in the valley. Wild animals make their homes here.

Grass grows in many high valleys on the sides of mountains. In the summer cattle and sheep like to feed in these cool valleys.

Some rocks contain gold, silver, iron or lead. Such rocks are dug from the sides of many mountains.

The upper picture on page 8 shows a *volcano*. It is made of melted rock and ashes. Melted rock is called *lava*. The lava and ashes come out of the earth through a hole or *crater*.

A volcano is a great heap of lava and ashes having a crater. Some volcanoes seem to be asleep. Others are *active* and throw out lava, mud and water.

Helps.—How does a mountain differ from a hill? What is a mountain? What do the pictures show about the forms of mountains?

What do the pictures show about the rocks in mountains? What does the lesson tell about the rocks?

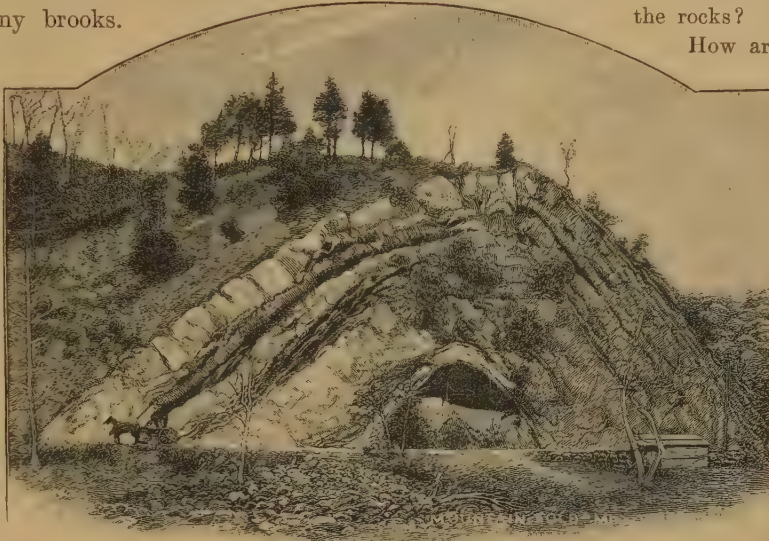
How are valleys made on the sides of mountains?

Why is the soil in valleys richer than that on mountain sides? What is a peak?—a cliff?—a gorge or canyon?—a range or chain?

Why do few people live on mountains? What is said about rain and snow on high peaks? Tell what you can about ice on mountains.

What is the snow line? What is the timber line? What is said about trees

on high mountains? What would you expect to see on a very high mountain peak?



Some hills and mountains are made of rocks bent into arches



Some hills and mountains are made of rocks in bands or layers

Why do people like to go to the mountains in summer? What would you expect to see on some low mountains?

Name some useful things that come from rocks. Of what is a volcano made? What comes from a crater?

9. Plain and plateau

A *plain* is land that is level or nearly level. It is easy to travel over such land, for there are no high hills to climb.



A plain that yields cotton

Some plains are very long and wide. Roads upon them may run straight away for many miles. If the soil is rich and there is plenty of rain, such plains make good farms.

Streams have filled some ponds and lakes with mud and thus made plains. The soil of such plains is deep and rich.

In many places all the water has flowed out of ponds and lakes, leaving smooth muddy bottoms. Some of the best farms in the world are on the old beds of lakes.

Some great plains are made of melted rock that has flowed out of the ground. When the rock cools it is hard and plants cannot grow on it. But after a very long time the rock crumbles to soil. Such soil is very rich.

Deltas are plains. So are the meadows along the sides of rivers.

Most of the people of the earth live on plains. Here we find the richest soil for plants,

the most grass for cattle, the deepest rivers for vessels, the smoothest land for roads.

Some plains are dry and sandy. Often the sand is blown into high hills. Few plants can grow in such dry places, and few animals can live there.

A large dry region where there is not much life is a *desert*. Some deserts are plains, others are hilly regions.

High plains are called *plateaus*.

Most plateaus are uneven. Water has worn deep valleys in them.

The plateau shown on this page is high and wide.

Its valleys were made by brooks and rivers.

When plateaus are deeply worn the country becomes too rough to travel over easily. Such rough land is thinly settled, but people may live there to work in mines.



A high plain or plateau with deep valleys cut by streams

Helps. — What is a plain? Which are easier to travel over, hills or plains? On which are the roads straighter?

What do plains need to make the best farms?

Tell some of the ways in which plains are made. Why do most people live on plains?

What is a desert? What does the lesson tell about deserts? What is a plateau? Why are most plateaus uneven? What makes valleys in them?

10. Shore forms

An *island* is land with water on all sides. It is easy to send goods in boats to and from islands. Many of the largest trading cities of the world are on islands.

A *peninsula* has water on nearly all sides. The word "peninsula" means *almost an island*.

Find the word "isthmus" in the picture. The word means *neck*. An isthmus is a neck of land that joins two bodies of land.

Find the word "strait" in the picture. The word means *narrow*. A strait is a strip of water that joins two bodies of water.

In many places arms of water reach into valleys in the land. There are long arms and short arms. They are called *bays*, *gulfs* and *seas*. A



The tide is low



The tide is rising



The tide is high

six hours for it to fall. This daily rise and fall of the water on the shores is called the *tide*.¹

When the tide goes out it washes the harbors. When the tide rises clean water flows in. Vessels can go in and out of harbors easily with the tides. The moving water helps to carry them in and out.

bay is like a gulf or a sea. Some are so wide that a swift steamer cannot cross them in a day.

The land beside a body of water is a *shore*. Some shores are low, others are high.—Some are made of sand, others are made of rock. Waves carry sand many miles along some shores. A shore is also called a *coast*.

A *cape* is a point of land that juts out into water. Some capes are low, others are high.

The wind brushes over the water and makes waves. At times they are large enough to sink ships. A bay or other place where vessels are safe from storms is a *harbor*. A city by a harbor is a *port*. Many of the large cities of the world are seaports.

Helps.—How does an island differ from a peninsula? What does the word "peninsula" mean?

What does "isthmus" mean? What is an isthmus? What does "strait" mean? What is a strait? How does a strait differ from an isthmus?

What is a bay? What other names are given to arms of water reaching into the land?

What is a shore? What do the pictures show about shores? What is said of the work of waves on shores? Give another name for "shore."

What makes waves? What harm is done by waves? Where do vessels try to go in storms? What is a harbor? What is a port? What is a lake port?—a seaport?

How many tides are there each day? Of what use are tides? Later you will learn how the moon causes tides.

¹ A few places have only one tide a day, and a few others have more than two tides.

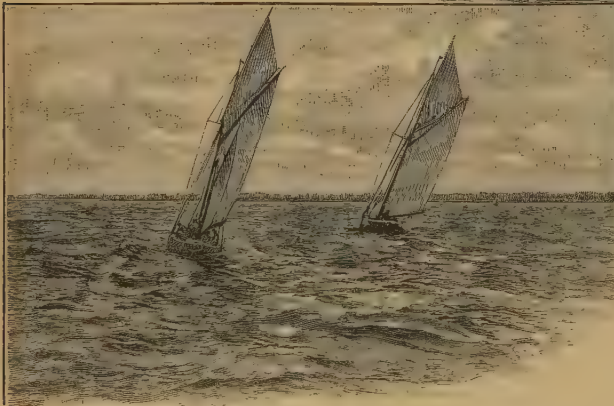
11. Forms of water

We have all seen *steam* or *vapor* coming from a hot kettle. We have seen the vapor rise in the air. But have you ever thought what makes the great *clouds* that float high in the air?

These clouds are like the vapor from the kettle. Vapor rises from wet ground and from other things that dry. It rises also from lakes, ponds and rivers. But most of it rises from the wide oceans. This vapor forms the clouds.

Far up in the sky the air is cold. When clouds are cold enough they turn to rain. The rain falls in drops to the earth. Part of it forms brooks and rivers. In this way the water goes back to the lakes and the ocean.

Fog is a cloud near the earth. Many vessels are lost when the air at sea is foggy. Can you think why?



Clouds over the ocean

Have you ever seen *hail*? Did it look like frozen rain?

When the air is very cold, part of the vapor in it may freeze and form flakes of *snow*. Try to catch some snowflakes on a piece of black cloth. You will find that they have pretty shapes.

At night the grass and stones may be very cold. Vapor may then float against them and change to drops of *dew*. On very cold nights

vapor freezes on grass, stones or other things and forms *frost*. Some of it looks like velvet.

We all know that *ice* is frozen water. Some of us have skated on frozen ponds. Ice is very useful when hot days come.

One of the pictures on page 44 shows a home far north of us in a cold land. What is there in the



Clouds over the lake and mountains

picture to show that it is cold? It is too cold for food plants to grow there. The people eat fish and the flesh of seals.

Far south of us snow never falls and water never freezes. Many of the trees are filled with fruit. The people live most of the time out of doors.

The pictures on this page show clouds high up in the air. The clouds are vapor, just like that rising from the kettle on the stove. The heat of the sun makes vapor rise from the ocean, just as the heat in the stove makes it rise from the kettle. The ocean is salt, but the vapor from it is fresh.

Helps. — What becomes of the cloud rising from a hot kettle? Where does most of the vapor in the air come from? Where else does it come from?

What makes clouds turn to rain? Breathe against a cold window pane and tell what you see.

What is fog? What may happen in a fog on the ocean?



What does hail look like? What makes snow? Draw the little snowflakes shown in the picture.

When does dew form? What makes it form? What is frost? What is ice? Name some of the uses of ice.

12. Points of the compass

The sun rises in or near the *east*. It sets in or near the *west*.

Face the east. *North* is now at your left hand. *South* is at your right. *West* is behind you.



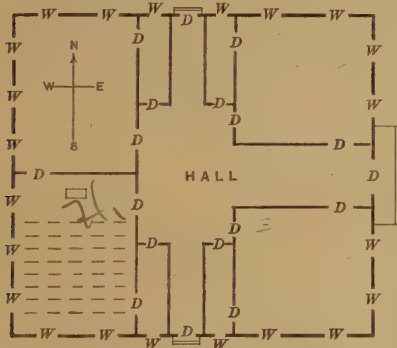
The brown people live in a warm part of the earth. They need but little clothing

At midday all shadows where we live point north. Try to find out at what time of day a post or tree casts the shortest shadow. *Morning*

Sailors use the *compass* to show north, south, east and west. Below is a picture of a compass. You can

see a round card with letters on it. What are the letters? What do they mean?

Under the card there is a little bar or needle of steel. It is a magnet that swings easily. Even a breath of air would swing it, if it were not under



Floor plan of a schoolhouse

a glass cover. The earth draws this needle and makes it point almost north and south. In some places it points just north and south.

The sun and the stars also help sailors to find their way. But they cannot see the sun on foggy days, nor the stars on cloudy nights. Yet the little compass needle points out the way even when the sun and stars are not in sight.



Mariner's compass

Helps. — Point to the place where the sun rises. How often does it rise? *every 24 hrs*

Where is the sun at noon? Where does it set? Point to the east. Point to the west.

Name some objects that are east of you. Name some that are west of you.

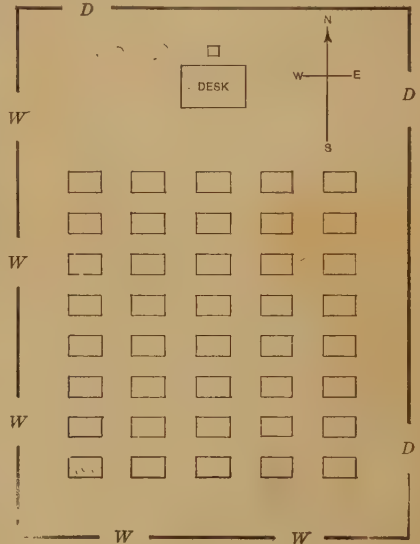
Turn your face to the north. Are there any trees, hills or houses north of you? Turn your back to the north. In what direction are you now facing? Name some objects south of you.

Which is the north side of your schoolhouse? Which is the west side? Can you name a street that runs north and south? Can you name one that runs east and west?

Point halfway between north and east. We call this direction north-east. It is often written N.E.

Where will you look for northwest? How else may you write it? Where is southwest? Where is southeast?

What does the lesson tell about the compass?



Plan of a schoolroom

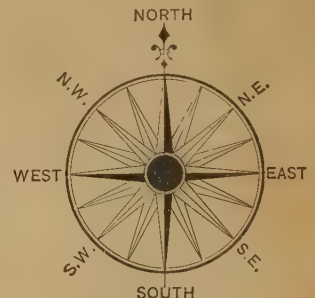
13. How maps are made¹

A little picture may show a mountain that is two or three miles high. A little drawing may show a land that is thousands of miles long.

Above is a plan of a schoolroom. The plan is less than three inches long, but the room is three hundred inches long. We call this drawing to a scale of *one to one hundred*.

The floor plan of the house shows four large rooms. Which is the room shown on the plan above? Little marks now show where the desks are placed.

See the plan of the yard on page 14. The schoolhouse is shown by a square. Do you see where the

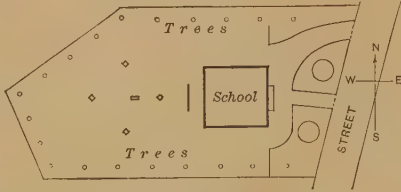


Compass card

¹ Read and explain this lesson to the pupils.

boys play ball? How are the trees shown? Two large rings show beds of flowers.

Which is the map of the school district? Here we see brooks and ponds. A road is made across one of the ponds. The school is on a hill. On nearly all sides the slopes are steep. They are shown by fine lines. The brooks are in the valleys.



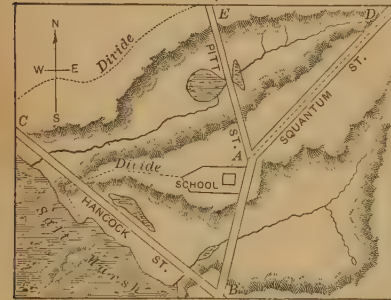
Plan of a school yard

A plan of any part of the earth is a *map*.

One picture shows a model of the school district. It was made of wax. Such a model is a relief or raised map. It shows hills, valleys, ponds and streets.

The first map below shows part of the city of New York. Find the City Hall and Post Office. Only a few streets are drawn on this map.

Map II gives more of the same city. Find the City Hall in this map. Why is it drawn so small? See



Map of a school district

how narrow the streets are made. This map shows the rivers on two sides of the city, with wharves along the water front.

Map III shows New York and several other cities and towns. In this map the

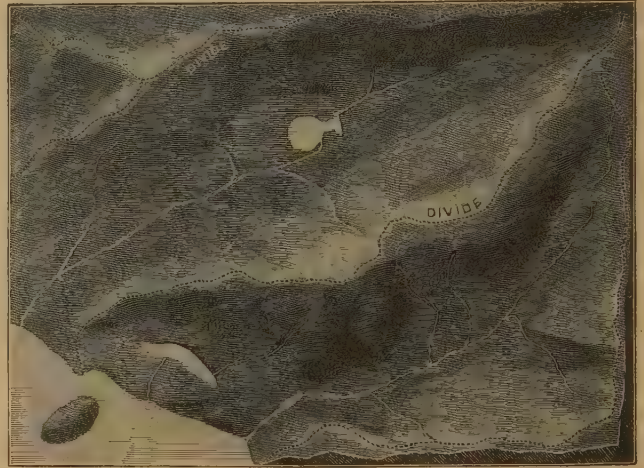
streets are fine lines. We cannot see the buildings and wharves. They are too small. This map shows that the Hudson river flows into New York bay.

Find New York on map IV. Find the city of Albany. These cities are nearly one hundred and fifty miles apart.

What river flows from Albany to New York? On which bank of the river are the Catskill mountains? Where is Brooklyn? This is part of New York.

Why are not the streets of New York shown on map IV? These little maps show how the large maps in this book are made.

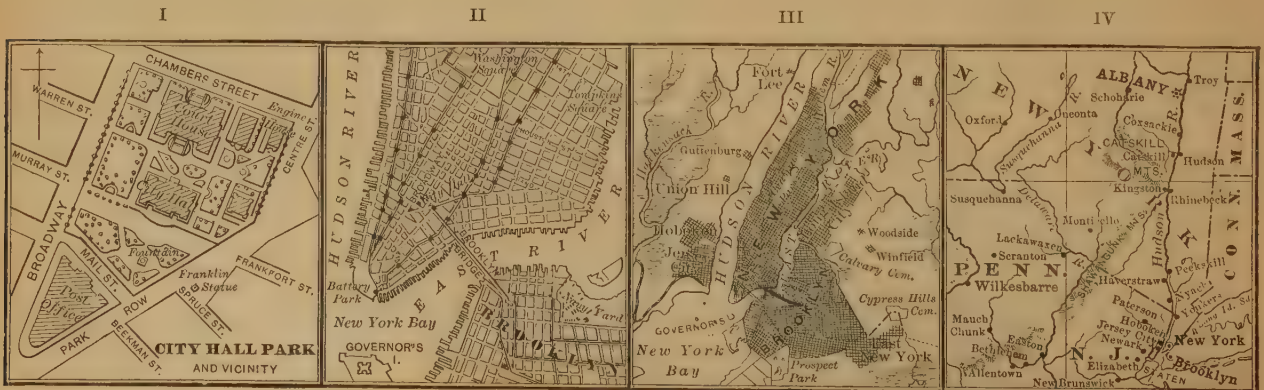
Many little maps are made round like the earth. We may call them *globe maps*. A globe is a ball.



Model or relief map of a school district

Some maps are printed in colors to show which lands belong to each nation or group of people.

When one inch on a map shows a hundred miles in nature we say the *scale is 1 inch to 100 miles*. The scale may be 1 inch to 1000 miles, or it may be more or less. On all the full-page colored maps you will find a scale line which shows how long a line equals 200, 400, 600 or more miles. With a measure you can find how far any place is from another. Try it.



Maps of New York and vicinity, drawn on four different scales

THE EARTH

14. Form and size of the earth

Many people have gone round the earth. Thus we know it is a ball.



One side of the earth

We live on the outside of the earth. The outside of anything is its surface.

The globe map on this page shows one side of the earth. The dark parts are the land. The other parts are the water.

The line where the earth and sky seem to meet is the *skyline* or *horizon*. It is on all sides of us. On the ocean the horizon is round.

This picture shows vessels on the ocean. You can look over the sails of one and see the water beyond. Another is sailing out of sight. Only the sails can be seen. The body or hull is below the horizon.

If the earth were flat, the vessels could not go out of sight below the horizon.

If we were far off in the sky, the earth would look like a great moon. The moon is a large ball, but the earth is many times larger.

We see so small a part of the earth that it does not look round like a ball.

A line round the thickest part of the earth is about twenty-five thousand miles long. A line through the center of the earth is nearly eight thousand miles long.

The sun is a ball of fire far away in the sky. It is very large and hot. It lights and warms the earth. The sun is many times larger than the earth.

The moon gets light from the sun. The moon sends part of its light to the earth. The moon does not always look the same. Only the side towards the sun is light. We often see only part of its light side.

Helps.—What is the form of the earth? How do we know this? On which part of the ball do we live?

On the globe map on this page can you find a range?—a plain?—a river?—a lake?—a shore?—an island?—a peninsula?—a bay?—a cape?—an isthmus?

What is the horizon? What do the vessels in the picture show?

How far is it round the thickest part of the earth? How far is it through the center?

Where does the earth get light and heat? Tell all you can about the sun. Where does it rise?

Where does the moon get light? What is the form of the moon? Of what use is the moon? Why does it not always look the same? Draw some of the shapes of the



Vessels on the horizon

moon that you have seen. Watch for the moon and see if its bright side is always towards the sun.

Which is the largest, the earth, the sun or the moon?

15. What the earth is made of

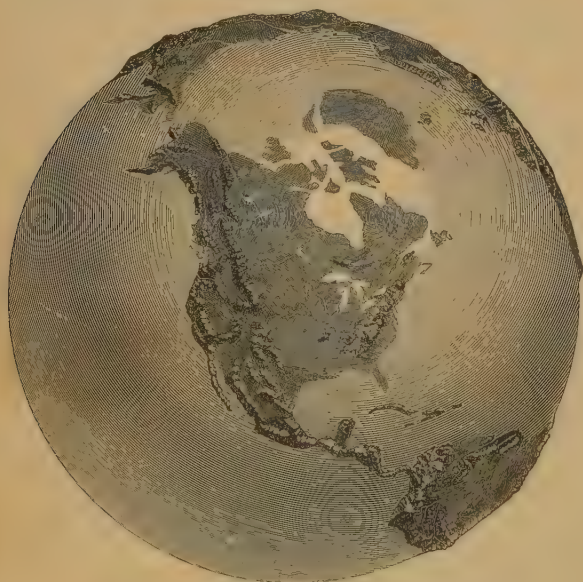
The earth is a great ball of land and water. Its surface is not smooth. It has high mountains and low valleys.

There is water in the lower parts of many valleys. The ocean is in very wide valleys, but there is land under all water. Lakes also are in valleys.

You can see the land round your school. Only one fourth of the surface of the earth is land. The rest of it is under water. Most of it is under the salt water of the ocean.

The inside of the earth is rock. It is very hot. In some deep mines the air is so hot that men can work only a few minutes at a time. In places we see the rock at the surface, but this part is cool.

In most places the rock is under soil. There is hard rock under the soil where you now are. The soil is made mostly of rotten rock.



The land we live on and the ocean around it

Helps.— What is the earth made of? What makes its surface uneven?

Why does water collect in valleys? What does lesson 4 tell about the ocean? What does this lesson tell about the ocean?

What is under all water? Is the land near your school smooth or rough? How much of the earth's surface is above water? Of what is the inside of the earth made? How do we know that it is hot? Where have you seen solid rock at the surface? What covers most rock?

16. The air we breathe

Can you feel the air? Swing your hand in it. We live and move in air. It is all around us. When we swing the hand the air feels soft. It is also very light.

Moving air is called *wind*. Air at rest is *calm*. Often the wind blows very strong in storms. Then it blows down large trees and houses.

Have you seen clouds moving in the sky? Do they all move the same way? They show how the wind is blowing up there. Smoke and dust often show how wind is blowing near the surface.

We do not know how high the air is, but we know that it is many miles high. It is much higher than the tallest mountains. Clouds float far above them.

Most of the air is near the surface of the earth. There is not much air on high mountains, and it is hard to breathe up there. The high air is thin and very cold.

We could not live without air. We must have it to breathe. When a person sinks in water he chokes and drowns if he cannot rise and get air. A piece of food in the windpipe may also shut out the air from our lungs and choke us.

All bugs need air. They find enough even in the deep soil.

Fishes breathe air, but not as we do. They have *gills* to take air from the water. There is air in all parts of the sea, but not enough for us to breathe.

The air has many other uses. It helps birds to fly. It moves ships and turns windmills. Plants and animals breathe it.



A soap bubble is a little ball or globe that floats in the air

The wind moves clouds and they give rain to many parts of the earth. Hot air from warm lands often blows to cold lands and warms them.

Helps. — What is all around the earth?

What is wind? What is a calm? What does the word "storm" mean? What harm have you seen done by storms?

What shows how the high air is moving? What shows how the air near the surface is moving?

What does the lesson say about the height of the air? What shows that there is air above the tallest peaks?

Where is most of the air? Why is it hard to breathe on high mountains? What does lesson 8 tell about the air on mountains?

Why does a person drown if he sinks in water? How can food choke us?

What proves that there is air deep in the ground? Of what use are the gills of fishes? If fishes can live in water, why cannot we?

How does the air help to give us rain? How can the air help to cool some lands and warm others?

Try to think of as many uses of air as you can. Write them down.

47. How the air is heated¹

Some places in the sunshine are warm, while others are cool. A sandy field may be hot, while green grass close by it feels cool. A hot breeze may blow from a dry field and then a cool breeze from the sea.

On hot days we like to lie on the cool ground in shady places. We are glad if a cloud floats over and keeps off part of the heat.

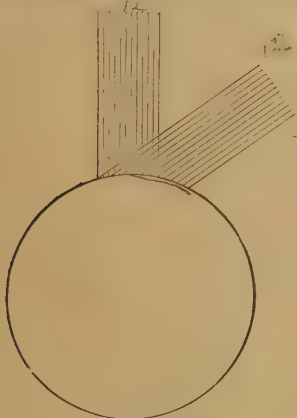


Figure I

¹ WEATHER RECORD. — In a notebook keep a *daily* record of the weather. In the afternoon write the word that best describes the weather. Be sure to write the date.

This record will show you how to keep yours.

Dec. 6	warm	rainy	wind
7	hot	clear	calm
8	cool	cloudy	breeze
9	cold	rainy	wind

Keep the record every school day for a year. Perhaps you can also take notes for holidays. At the end of the year you can count and find out which month has had the greatest number of warm days, rainy days, etc.

The sun's rays shine through pure air without warming it. But the sun warms the rocks, sand, trees, houses, clouds and other things. These warm the air just as a stove does. Now we see why air close to the earth is warmer than air far up in the sky.

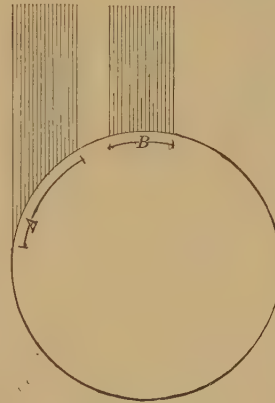


Figure II

Dust and clouds in the air take some of the sun's heat and help to warm the air near them.

Hot sand gives out heat very fast to the air. The sun warms water very slowly, and the water also gives off heat slowly. The air over a flat rock in the sun may

be hot, while the air over a pond near it is cool. The twelve lines in figure I we will call rays from the sun. They are shown both upright and slanting. The upright or *vertical* rays may be noon rays. They all shine on a small space and it becomes warm.

Now look at the space on which the slanting rays fall. It is nearly twice as large. The slanting rays have to cover so much land or water that it warms slowly.

In the morning the sun is low in the sky. Then the rays are slanting and the earth warms slowly. At noon the sun is high in the sky and the rays fall more thickly and give more heat.

Helps. — Where do you like to go on hot days? Why? Can you name some places near the school that are hot when the sun is shining?

Explain how the air is heated. Why is the air high in the sky so cold? What does the lesson tell about clouds and dust in the air?

Try to find some sand and some water in the sunshine. Which is the warmer?

Draw a figure to show why upright rays give more heat to a space than slanting rays.

Why is the midday sun hotter than the morning sun? Why is the evening cool?

Can you think why, as a rule, the air is cooler when the sun is rising than when it is setting?

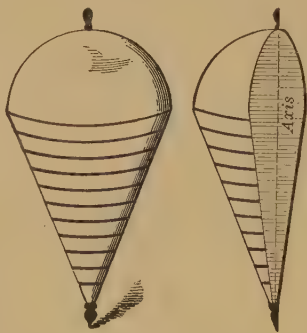
18. Poles and equator

See the dotted line in the top. The top spins or turns round this line. It runs from the head to the peg. We will call this line the *axis* of the top.

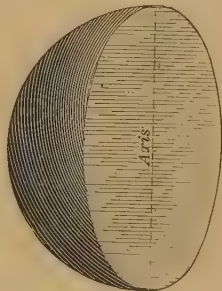
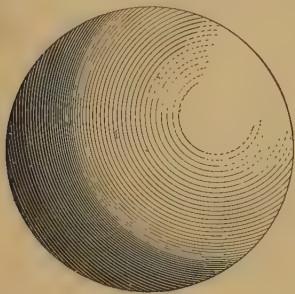
We may also think of an axis in the earth. The half ball shows the axis.

The earth spins like a huge top, but it turns round its axis only once in a day and night.

A cart wheel turns on an axle. It may be made of iron or wood. The earth does not rest on anything. It has no strong axle. But it turns *as if* on an axle.



A spinning top



An axis is only an *imaginary line*, and is not made of iron, wood or anything.

The two ends of the axis of the earth are called *poles*. One is the north pole and the other the south pole. "Pole" means *pivot*.

Can you find the *north star*?  The axis of the earth points almost to the north star. The end of the axis under this star is the north pole.

If you were at the north pole, you could see the north star over your head. It is often called the *pole star*. Can you tell why?

The poles are in very cold regions. Snow and ice bury the land and the sea around them. Brave men have reached both poles.

Lines are drawn on maps to show north and south. North is towards the north pole. South is towards the south pole.

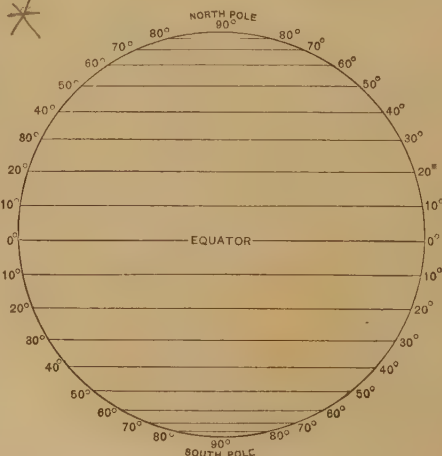
We may think of a line round the earth halfway between the poles. It runs east and west. It divides the surface of the earth into two *equal* parts. This line is the *equator*.

Other lines are drawn east and west on maps. If you turn a map so that north is at the top, east will be to the right and west to the left.

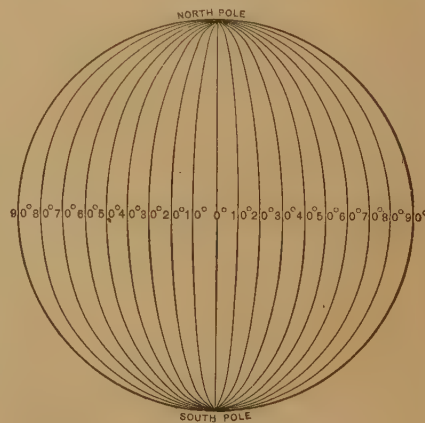
Near the equator the sun is high in the sky every day. The hot or warm weather lasts all the year. There is no winter, but there may be many rainy days.

The sun lights one side of the earth at a time. As the earth turns on its axis one side is light and the other side is dark. One side has day when the other has night.

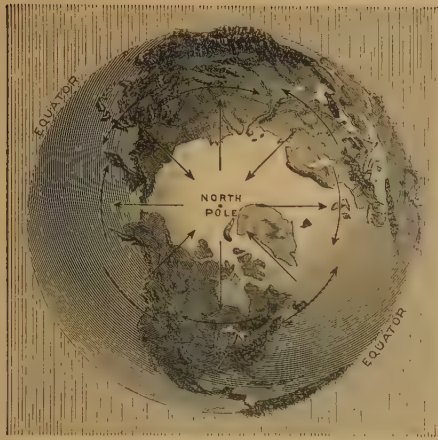
The earth turns from west to east on its axis. All the forenoon the earth turns us towards the sun. At noon we pass the sun.



East and west lines



North and south lines

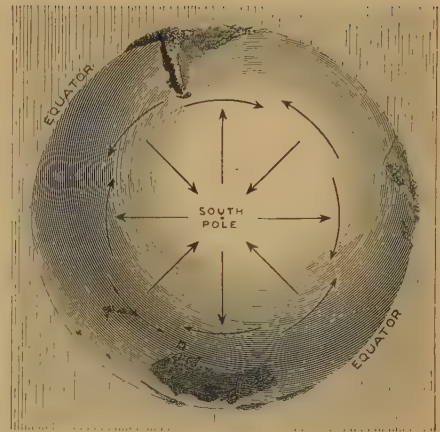


Map A

In the afternoon the earth moves us away from it. Thus the sun seems to rise in the east and set in the west, but it is the earth and not the sun that moves to cause day and night.

Helps.—What is the axis of a top? Through what part of the top does it run?

Round what does the earth turn? How often does it turn round on its axis?



Map B

Have you seen the axle of a wheel? What was it made of? Of what use was it to the wheel? Has the earth an axle? How does an axle differ from an axis?

Can you make a ball turn in the air and think where the axis is?

What are the poles of the earth? What are their names?

Can you point to the place in the sky where the north star shines? Which pole is under this star? Why can we not visit the poles?

How can you tell north and south on maps?

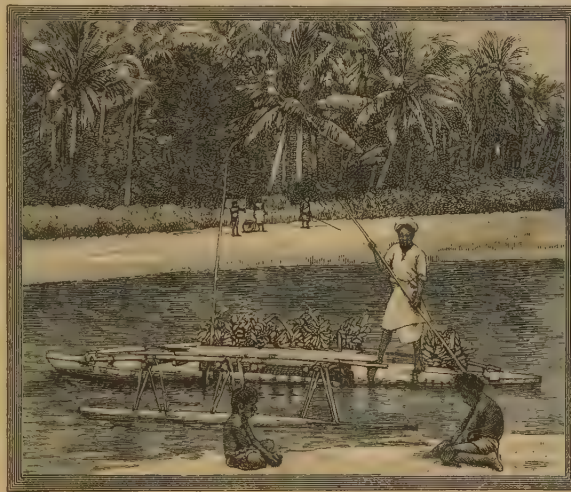
Where is the equator? In what direction does it run? Can you think why it is called the equator?

How can you tell east and west on maps? If you turn a map so that north is at the top, where will east be? Find one of the colored maps

Which arrows on map A point east? Which point east on map B?—on C? Which arrows point west on map A? —on map B? —on C?

NOTE.—The arrows on these little maps show that north may be on either side of the map or within it. But nearly all maps are made with north at the top, south at the bottom, east at the right and west at the left. This is true of the maps on pages 40, 43, 45 and 46.

But some maps are long from east to west and short from north to south. Such maps are often turned on the page. You can tell by the printed title of the map whether or not it is turned on the page. If it is, you should turn the book so that one side of the leaf will be at the top or north. See the maps on pages 50 and 53.



Near the equator



Map C

and tell which lines run north, and which run east.

What is said about the weather near the equator? Why is this part of the earth so warm?

What lights the earth? Which side of the earth is light? When will that side be dark?

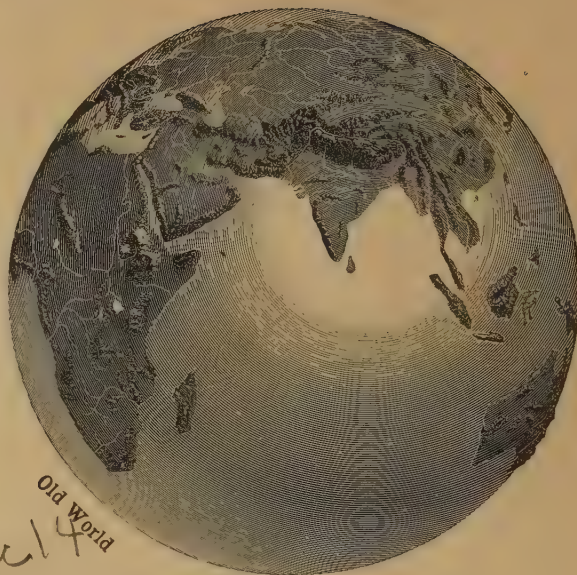
What causes day and night? Why does the sun rise in the east? At what time of day is our part of the earth turning us away from the sun? Where is the sun at night?



Map D



America



Old World

19. The continents

Here are maps of the earth. They show many islands and also the large lands called *continents* or *grand divisions*.

Wide *oceans* reach from shore to shore. Great arms of the ocean reach far into the land. Each continent has high mountains and wide plains. Long rivers flow down the slopes to the sea.

Find on the map the name *Asia*. This is the largest continent. *Africa* is next in size.

North America is the continent on which we live. It is north of the equator and is third in size. A neck of land joins it with *South America*, the next in size.

Europe is west of Asia. Little *Australia* is southeast of Asia and is south of the equator.

The earth is a *globe* or *sphere*. Half a sphere is a *hemisphere*. *Hemi* means *half*. America is in the Western Hemisphere. The Old World is in the Eastern Hemisphere. America is also called the New World. Who found it?



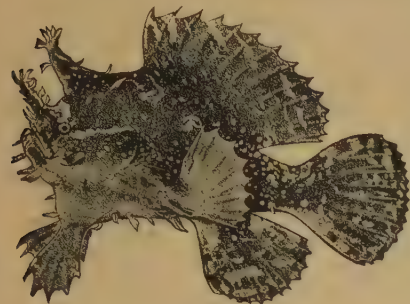
Western Hemisphere



Eastern Hemisphere

We shall study much more about the continents. In Asia we shall see yellow people feeding silkworms and picking leaves from tea plants.

Africa is the home of the black people. We shall see their tall straw huts in forests and on the banks of great rivers.



A spiny fish

Australia, about the many queer animals and plants, and about the large flocks of sheep in that land.

In South America we shall visit the Indians that live near the great river Amazon. We shall also see low trees filled with berries from which coffee comes.

In our own country we shall see wide fields hidden with white cotton or waving grain. We shall cross



A coral island

great plains where cattle graze. We shall climb high mountains whose tops are buried in ice and snow.

We shall learn much about the white people of Europe. We shall learn what they send to us and what they buy from us.

We shall read about the gold fields of far-off

Many polyps work pieces of coral you see. Each polyp looks like a wee flower. It may be white; red, pink, yellow or brown.

Polyps lay eggs in the water and they float about. If they reach a rocky bank or a hard bottom in clear warm water, they start a new coral forest.

Helps.—What name is given to the large lands of the earth? What lies

Have you ever looked carefully at a sponge? Can you find a piece of coral? Sponges and coral grow in the sea.

Coral grows on the sea bottom. It grows best in clear water in the warm parts of the sea. The coral

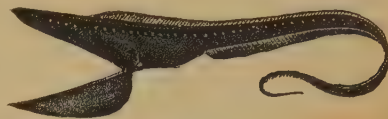
you have seen is hard. But when it is growing it has tiny soft spots, and each spot is a living

body. Each spot has a mouth and a stomach, and takes its food from the water.

The soft part is a polyp. The hard part is coral.

Some coral grows like trees. The polyps send out buds that form branches. The polyps on the branches bud again, and thus a coral forest grows. As the soft polyps die and are washed away, the coral or hard part

left standing, to make the little



A deep-sea fish



Branching coral

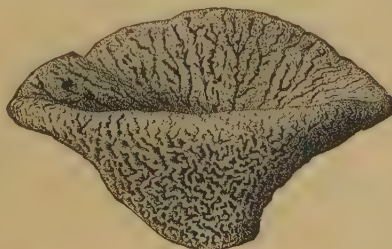
Waves break off pieces of coral and wash them on top of the rest. Each storm sends up more, till the bank is above water and forms an island.

The waves soon grind some of the coral to dust and thus make soil. Sea plants die on the shore and mix with the coral soil.

Seeds drift to the new land or are carried there. Trees and smaller plants soon spring up. Now the coral island is ready for man to come and make it his home.

Sponges also are hard parts of little creatures that grow at the bottom of the sea. When a sponge is wet it feels soft.

Near the equator the surface of the sea is warm. Near the poles it is very cold. Some



A sponge

20. The oceans

Salt water covers three fourths of the earth. It spreads around all the lands. This salt water is the *sea* or *ocean*.



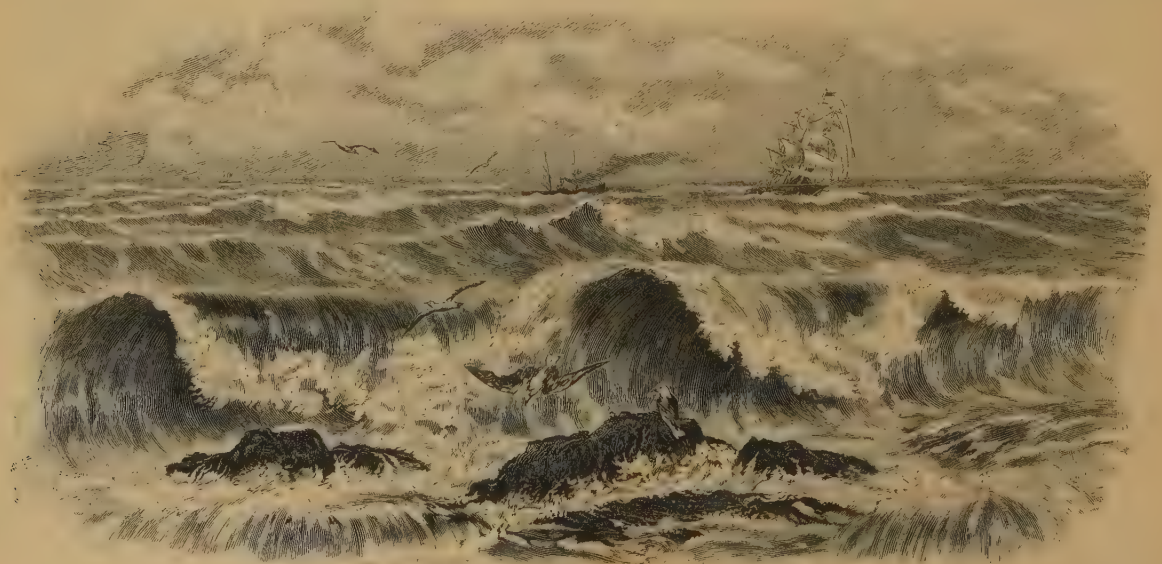
of the warm water flows towards the poles. The air over it is warm and helps to warm the lands. Some of the cold water also flows to the warmer parts of the earth and helps to cool them.

Some parts of the sea are five miles deep. The light of the sun does not go far down into water. Below a fourth of a mile all the water is dark. All the deep parts of the sea are dark and cold.

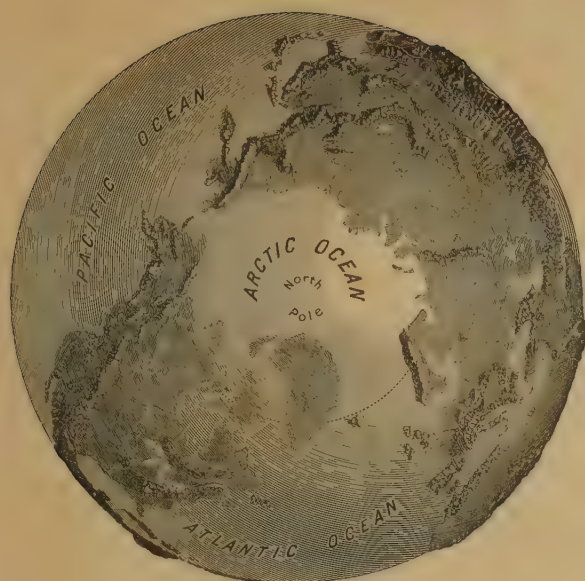
We have read that the oceans are in wide valleys. Fine mud covers most of the sea bottom. Many queer fish live in this mud. Some have no eyes. Why do they not need eyes?

Near some shores the water is shallow. There the waves grind up sea plants and thus make food for fishes. Many fish are found near such shores.

The sea is very useful to man. It supplies water for the rain clouds. Ships sail on it



Ships on the ocean. Waves and sea birds



from port to port. Many fish for food are taken from the sea. In summer cool winds often blow from over the sea.

Names are given to parts of the ocean. One part is the *Atlantic ocean*. It is east of our country. Another part is the *Pacific ocean*. This is west of our country. The cold sea round the north pole is the *Arctic ocean*. The cold sea round the south pole is the *Antarctic ocean*. The part south of Asia is the *Indian ocean*.

There are five oceans. The Pacific is the largest. It covers over one third of the earth. The Atlantic ocean is next in size. It is about one half as large as the Pacific.

Helps.—How much of the earth's surface is salt water? What names are given to this great body of salt water?

Tell what you can about coral. Where do sponges grow?

Where is the surface of the sea warm? Where is it cold? How can the water help to warm or to cool the land?

How deep are some parts of the sea? How deep can sunlight go in water? What is said about the deep parts of the sea? What is under the sea?

What kinds of fish have you seen? Do they live in fresh water or in salt water? Why are many fish found near some shores?

What ocean is east of North America? What other continents border on the Atlantic ocean?

What ocean is west of North America? What other continents border on the Pacific ocean?

What three oceans touch the shores of Asia? What three oceans bathe the shores of North America?

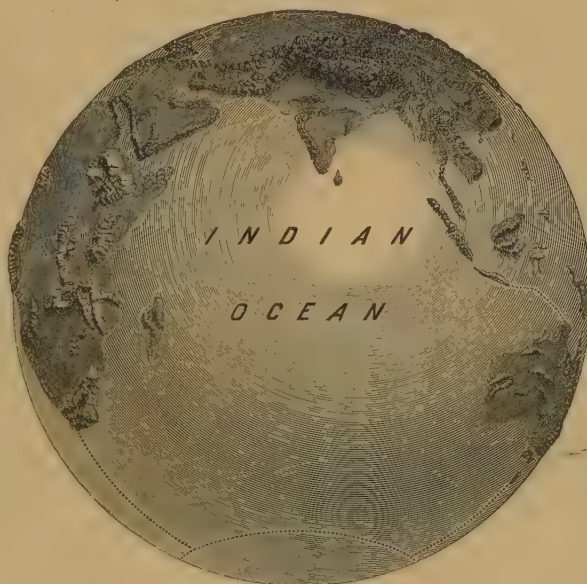
What ocean surrounds the north pole? What ocean is around the south pole? What three continents border on the Indian ocean?

What ocean is north of Europe?—west of Europe? What ocean is east of America?—west of it?

Which oceans are crossed by the equator? Which ocean

is wholly south of the equator? Which ocean is wholly north of the equator? Name the coldest two oceans.

If you were to start from any eastern seaport of our country and sail round the earth, what oceans would you cross? What continents would you pass? Why would you not try to sail through the Arctic ocean?



21 The seasons

Near the equator the sun shines high in the sky every day. The air grows hot or warm. There is never any winter.

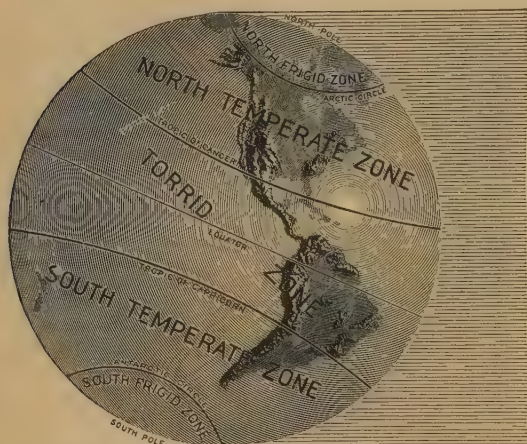
Far from the equator the sun is not so high

in the sky even at noon. The rays are slanting and the air is cooler.

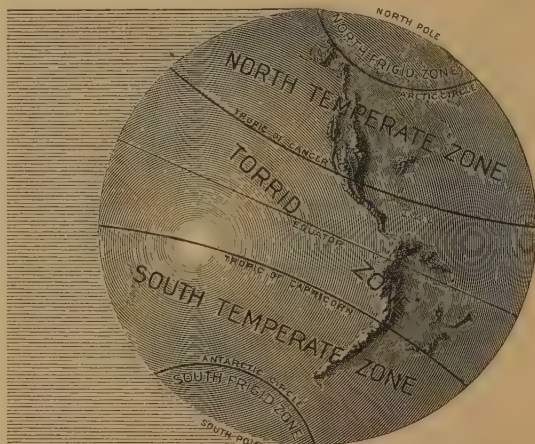
Near the poles the rays are so slanting that even in summer they cannot melt

The coldest days are in *winter*. This is the cold season of the year.

When it is winter on one side of the equator it is summer on the other. One side may have snow while the other has fruits and flowers.



(A) New World: first day of northern summer.
The sun is far north of the equator



(C) New World: first day of northern winter.
The sun is far south of the equator

all the snow and ice. In these cold parts of the earth the sun is never high in the sky.

Once a year the earth moves round the sun. The path of the earth is almost a circle.

Half the year the sun rises and sets north of the equator. At noon it shines higher in

Spring is the cool season before summer. Then the cold winter has gone and the sun begins to shine high in the sky each day.

Autumn is the cool season after summer. The sun is again low in the sky and the cold days and long nights of winter are coming.



(B) Old World: first day of northern summer.
The sun is far north of the equator



(D) Old World: first day of northern winter.
The sun is far south of the equator

During the other six months the sun is south of the equator. At noon its rays are more slanting than in our summer. Then the lands far north of the equator receive but little heat.

the sky than during the other half of the year. When the days are warmest we have our summer in the north. We also call it the hot season.

We divide the year into these four seasons.¹ Near the equator there is no winter, and the

¹ Spring begins March 20, summer June 21, autumn September 22, winter December 20.

people divide the year into a rainy season and a dry season.

Helps. — Why is the air near the equator so warm? Why is it so cold far from the equator? What is said about the polar regions?

What two motions of the earth have you studied? How long does it take for the earth to move round the sun? What is the shape of its path?

Where does the sun rise during our summer? Why are the days so warm?

Why does winter come? Can you tell why it is winter on one side of the equator while it is summer on the other?



When does spring come?—autumn? Name our four seasons. What are the seasons near the equator? Name some games of winter; summer; autumn; spring.

22. The zones

The warm belt of land and water near the equator is the *torrid zone*. It is a wide belt having hot or warm days all the year.

The word “zone” means *belt*. The word “torrid” means *hot*.

The torrid zone reaches from the equator about one fourth of the way to each pole.

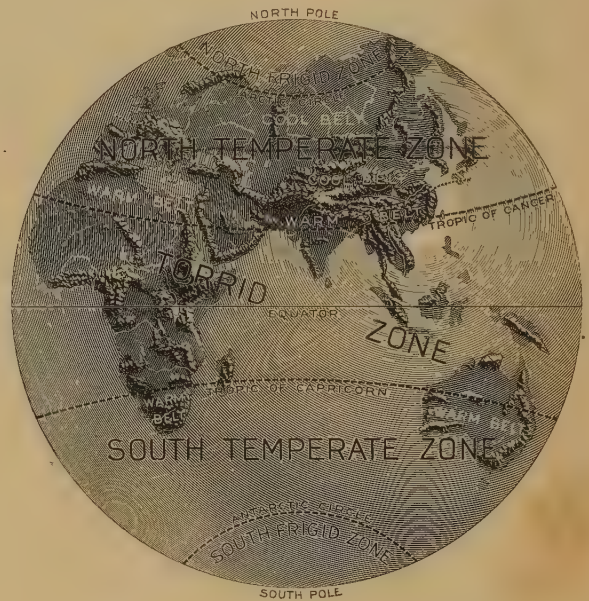
Nearly all parts of this zone have plenty of rain. Most of the winds blow from east to west.

On both sides of the torrid zone are the *temperate zones*. They have hot summers and cold winters. We know what the seasons of the north temperate zone are, for we live in this zone.

Most of the winds of the temperate zones blow from west to east. They bring rain to many highlands and plains. The north temperate zone has the best grain fields in the world.

Near the poles the sun shines low in the sky. The air is very cold most of the year. The winter is long. The summer is very short. Part of the sea is always frozen.

The zones round the poles are the *frigid zones*. The word “frigid” means *cold*.



The tops of high mountains are far up in the cold air, and snow often falls on them. Even in the torrid zone there are peaks on which snow lies all the year round.

Helps. — Which part of the earth is hot or warm all the year? What name is given to the hot belt? What does “torrid” mean? What does “zone” mean?

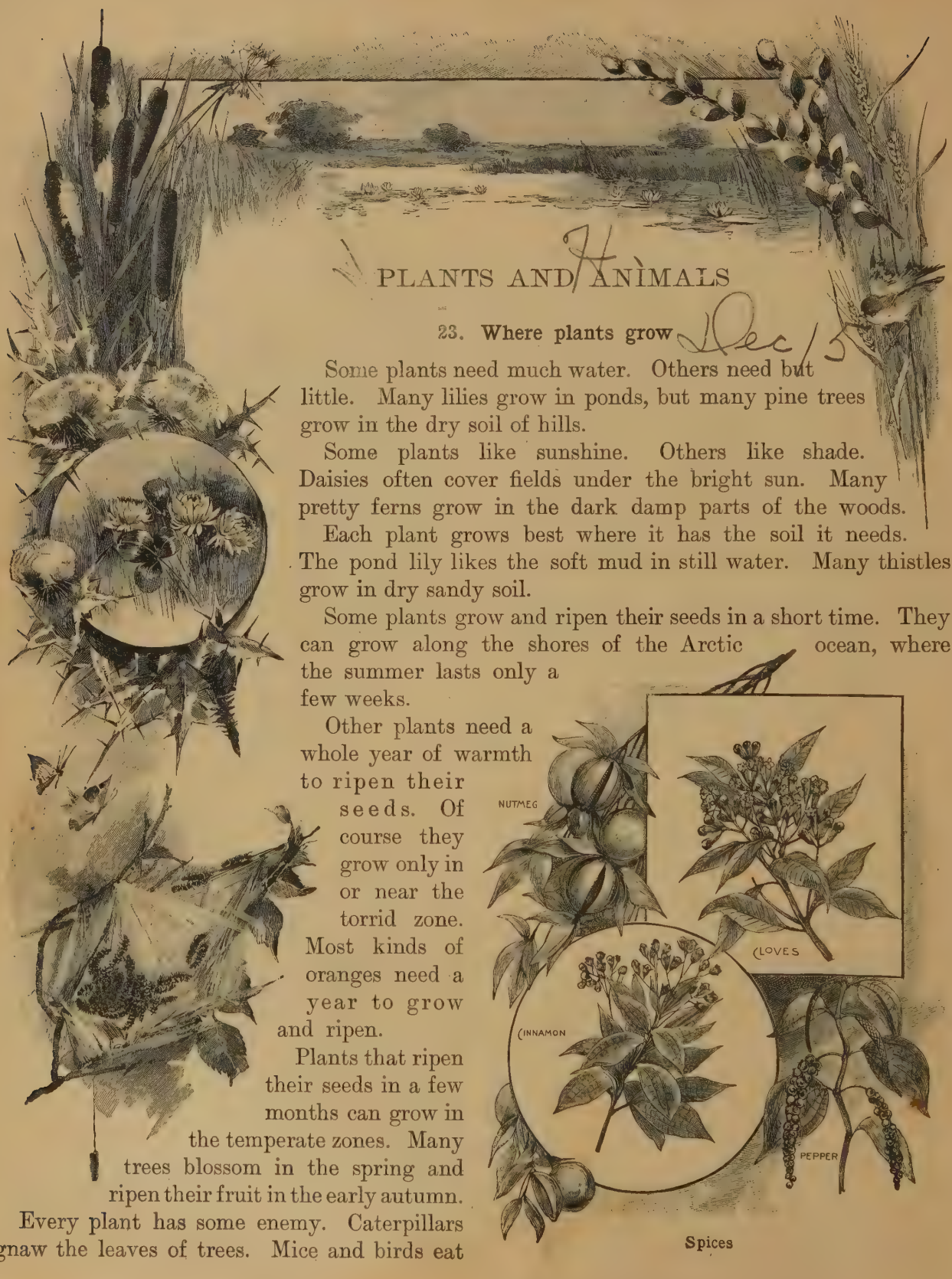
What is said about the width of the torrid zone? What about its rain and winds?

Where are the temperate zones? What is said of their summer and winter? In which zone do you live?

What is said about the wind and rain of the temperate zones? In what product does the north temperate zone lead the world?

Where are the frigid zones? Why are they cold? What is said of their seasons? What does “frigid” mean?

What do the pictures on pages 35 and 44 show about the cold and the hot zones?



PLANTS AND ANIMALS

23. Where plants grow

Some plants need much water. Others need but little. Many lilies grow in ponds, but many pine trees grow in the dry soil of hills.

Some plants like sunshine. Others like shade. Daisies often cover fields under the bright sun. Many pretty ferns grow in the dark damp parts of the woods.

Each plant grows best where it has the soil it needs. The pond lily likes the soft mud in still water. Many thistles grow in dry sandy soil.

Some plants grow and ripen their seeds in a short time. They can grow along the shores of the Arctic ocean, where the summer lasts only a few weeks.

Other plants need a whole year of warmth to ripen their seeds. Of course they grow only in or near the torrid zone.

Most kinds of oranges need a year to grow and ripen.

Plants that ripen their seeds in a few months can grow in the temperate zones. Many trees blossom in the spring and ripen their fruit in the early autumn.

Every plant has some enemy. Caterpillars gnaw the leaves of trees. Mice and birds eat

NUTMEG

CLOVES

CINNAMON

PEPPER

Spices

the seeds of many plants. Bugs eat potato plants. Early frost often kills corn. Many plants die when too much or not enough rain falls.

Now you know why the same kinds of plants cannot grow in all the zones. You know also why the same plants cannot grow in all parts of a zone. The plants must find the soil, water and heat they need.

Helps. — Name a plant that grows in water. Can you name one that grows in damp lands?

What flowers have you picked in sunny fields?

What plants have you seen growing in shady places?

Can you name some plants that grow in fine soil? Can you name some that grow in sandy places?

What plants can grow along the shores of the Arctic ocean? Why cannot apple trees grow there?

Where would you expect to see plants that need a year of warm weather to ripen their seeds? Why will plants not grow where they cannot ripen their seeds?

What kind of plants will grow in the temperate zone?

Name some of the plants of the zone in which you live.

In which zone would you look for each of the following plants: bananas that need a year of hot weather to ripen? — poppies that ripen their seeds in a few weeks? — apple trees that ripen their fruit in about half a year or less?

Name some of the enemies of plants.

Why cannot the same plants grow in all zones? Why

cannot the same plants grow in all parts of the zone we live in? What do all plants need?

fill on Friday
24. Plants of the zones *Mon*

Many kinds of fruit grow in the torrid zone. Among these are the orange and banana. There are also many kinds that we never see in our country.

The banana plant often grows twenty feet high. The picture shows how it looks. The fruit hangs in large clusters.

In hot lands the banana is widely used as food. On some of the islands of the Pacific it is the chief food of the natives.

Many spices grow in the torrid zone. Among these are pepper, cloves, nutmegs and cinnamon. The islands southeast of Asia are rich in spices.

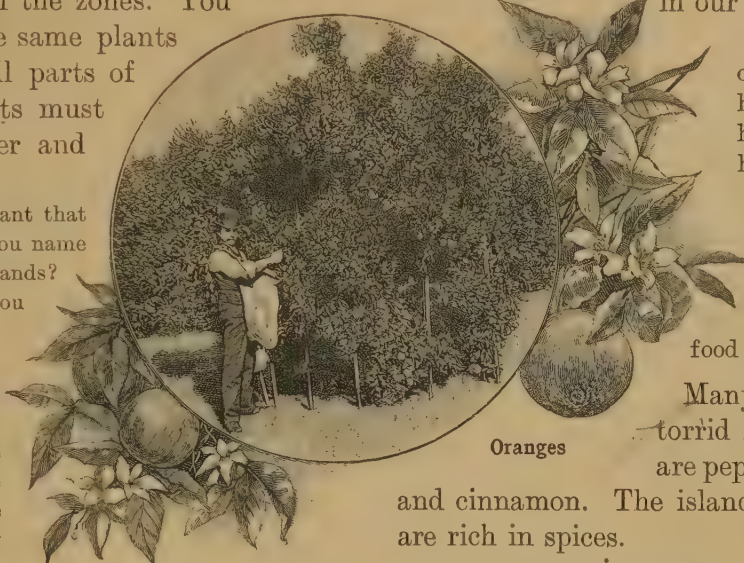
Pepper berries grow in long clusters on climbing plants or vines. The berries are dried in the sun. Before we use them on the table they are ground to powder.

Cloves are dried buds that grow on trees. The buds are picked when they turn red. They are then dried and sent to market. Cloves have a hot, biting taste.

Cinnamon is the dried bark of a kind of small tree. The outer bark is taken off and only the inner bark is dried for market.

Nutmegs come from a little fruit that grows on a large tree. The seed of this fruit is taken out and dried. Then it is cracked open and out comes a hard kernel, which is the nutmeg

Oranges



Banana plant

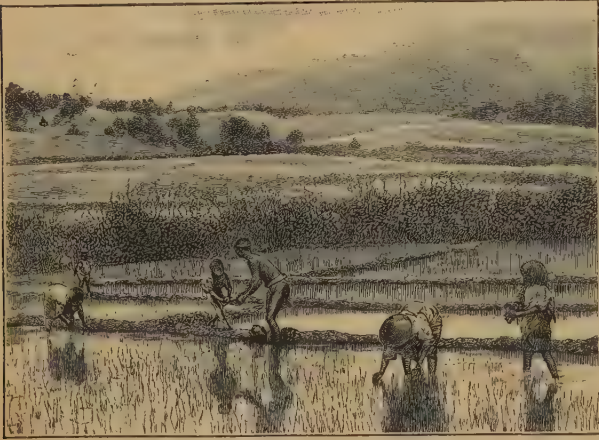


Date palm

Helps. — What are the seasons of the torrid zone? See lesson 22. Name two fruits of the torrid zone. Tell what you can about the banana. What can you tell about pepper? — cloves? — cinnamon? — nutmegs?

Sugar cane, coffee and rice grow best in this hot zone.

Sugar cane looks like corn stalks. The cane is crushed and the juice is boiled till brown sugar forms in it. The liquid in which the sugar forms is molasses.



Setting out rice plants in wet land

White sugar is a pure kind made from brown sugar. Later we shall learn how sugar is also made from beets.

Coffee comes from little berries that grow on bushes or small trees. The seeds of the berries are the coffee.

Rice is like a grass. Some of it grows in fields under water. Millions of people use rice for food. The white rice we use is the little seed of the plant.

of the torrid zone. There are rice, oranges, lemons, figs and grapes. There is also the plant on which cotton grows.

Cotton is a fiber that grows round the seeds of a plant. This fiber is pulled from the seeds by a machine. Then it is twisted into thread and woven into cloth.

Look closely at a piece of cotton cloth. Pull the threads apart. Then untwist a thread and see the cotton fiber. What else is thread made of?



A water buffalo that works in rice fields

About one half of the people of the earth wear clothing made wholly of cotton. Most of the others use some cotton clothing.

Tea grows in the warm parts of the temperate zones. Some of it also grows in the hot zone.

Tea is made of the dried leaves of the tea plant. Most of it grows in south-east Asia. After the leaves are dried they are packed in boxes and sent to many parts of the earth.

The cool parts of the temperate zones have hot days about half the year. The hot season is long enough for grains to ripen. Here are found wheat, corn, rye, oats and barley. Wheat and corn are the most useful.

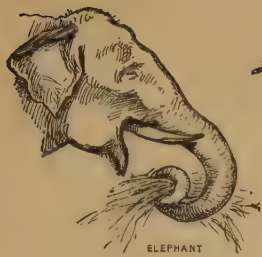
The best grazing lands are in the cool belts. Most of the cattle, horses and sheep feed on the grass in the temperate zones. This is the farming zone, where horses are most useful.



Home of brown people in the torrid zone

The warm parts of the temperate zones also have many useful plants. Some are like those

in the temperate zones. This is the farming zone, where horses are most useful.



ELEPHANT



GIRAFFE



WOODPECKER



ANT-EATER



EAGLE



HOG



HUMMING BIRD



DUCK



FINCH

These zones have great forests of soft woods, such as pine, fir and spruce. There are also hard woods, such as oak and maple.

Only a few useful plants grow in the north frigid zone. They are food for deer and other animals. A few stunted trees and bushes grow in the warmer parts of this zone.

In the short summer the snow melts in some parts of the north frigid zone. Then poppies and other bright flowers spring up. In a few weeks they drop their seeds and soon the snow covers them once more.

Helps.—What does the lesson tell about sugar and molasses? In which zone does most of the sugar cane grow?

What is said about coffee?—rice? Name some fruits that grow in the warm parts of the temperate zones. Name a useful fiber plant. Tell what you can about cotton.

Where does tea grow? What is tea? What seasons do the temperate zones have? Name some of the most useful grains of the temperate zones. What is said about the grass lands of these zones?

Name some soft woods of the zone in which you live. Name some hard woods that grow near your home.

What is said about plant life in the north frigid zone?

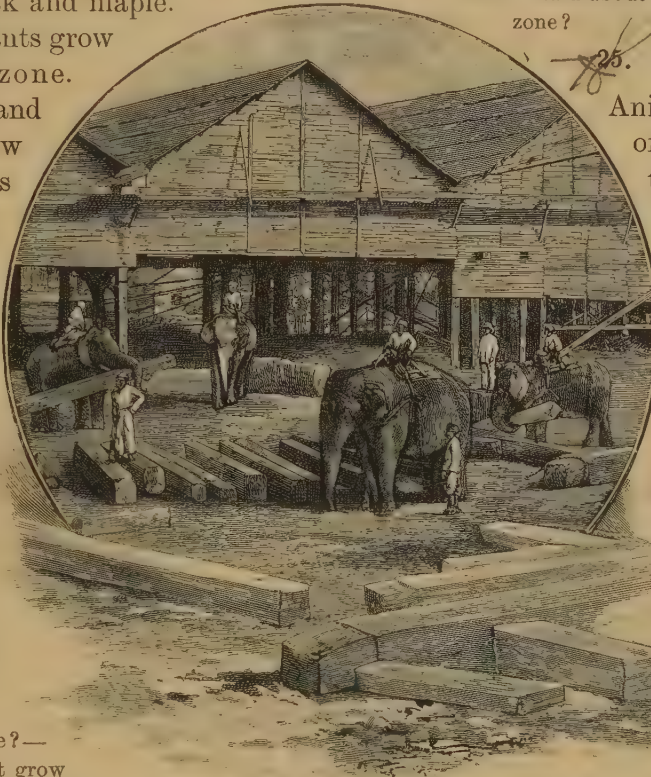
25. Where animals live

Animals have many kinds of feet, legs, bills and teeth. Each has its own uses. It helps the animal to get food and to protect itself.

The eagle has sharp claws and a beak to hold and tear the flesh it feeds on. The heavy horse with wide hoofs can graze on soft land, and its feet do not cling to the grass roots.

The hog has a strong nose and can dig roots. The duck has webs between its toes and can swim fast. Many birds that feed in the water near the shores have long legs for wading.

Animals have many kinds of covering. Some are suited to life in the water, others on the land or in the air.



Trained elephants piling lumber



TIGER



DUCK



CAMEL



HERON



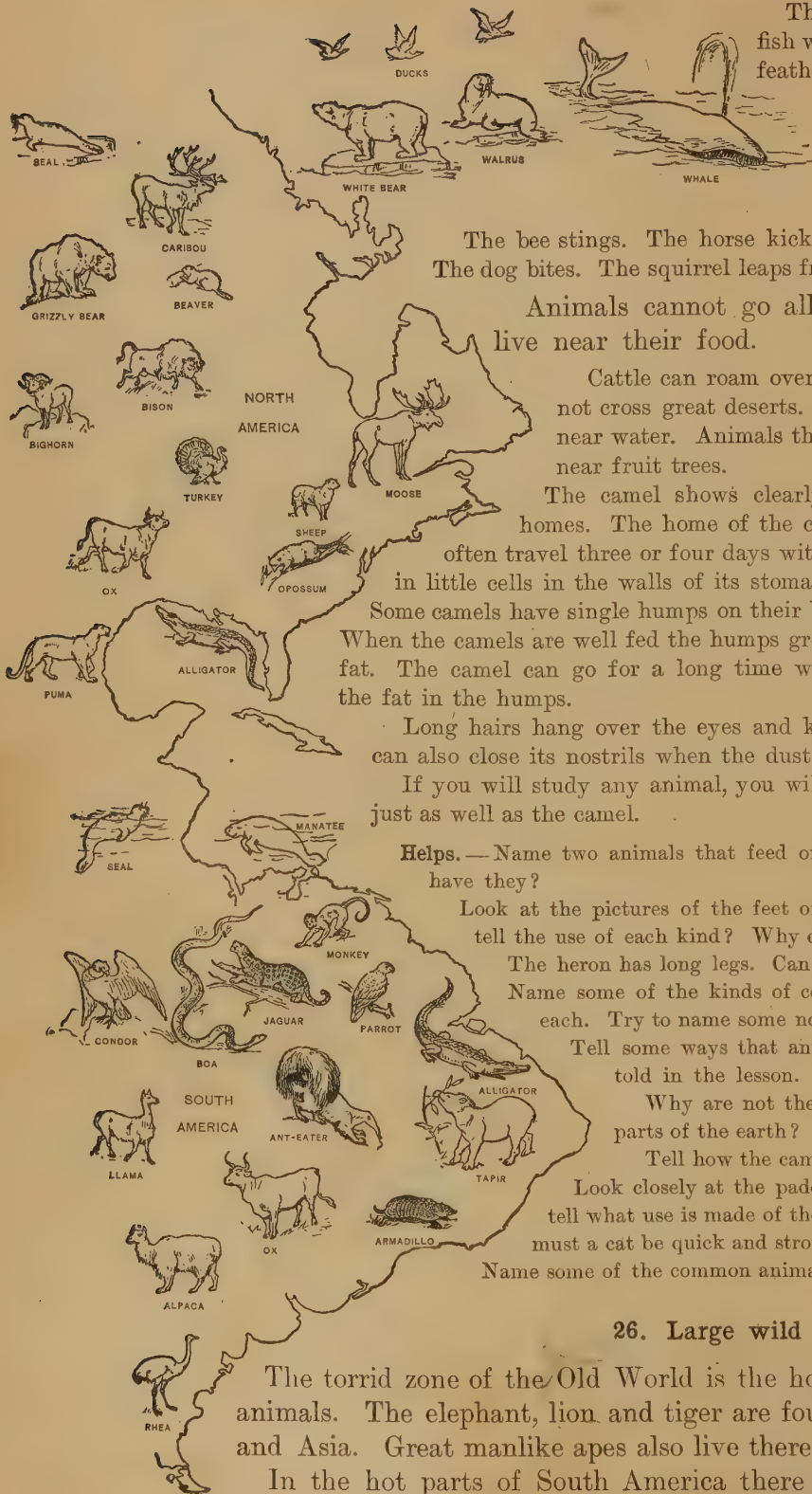
OSTRICH



EAGLE



HORSE



There are turtles with hard shells, fish with smooth scales, birds with light feathers, frogs with smooth skin, sheep with curly wool and squirrels with soft fur.

Every animal has some way to defend itself.

The bee stings. The horse kicks. The cow hooks with her horns. The dog bites. The squirrel leaps from tree to tree or darts into a hole.

Animals cannot go all over the earth. They must live near their food.

Cattle can roam over wide grassy plains, but they cannot cross great deserts. Birds that feed on fish must live near water. Animals that live on fruits make their homes near fruit trees.

The camel shows clearly how animals grow to fit their homes. The home of the camel is in the hot desert. It must often travel three or four days without drinking, but it carries water in little cells in the walls of its stomach.

Some camels have single humps on their backs. Others have double humps. When the camels are well fed the humps grow very large. They are masses of fat. The camel can go for a long time without food. The body then uses the fat in the humps.

Long hairs hang over the eyes and keep out the hot sand. The camel can also close its nostrils when the dust is whirling around.

If you will study any animal, you will find that it is fitted to its home just as well as the camel.

Helps.—Name two animals that feed on grass. What kind of feet or toes have they?

Look at the pictures of the feet of the duck and the eagle. Can you tell the use of each kind? Why does the eagle need a sharp beak?

The heron has long legs. Can you tell why it needs a long neck? Name some of the kinds of covering of animals and tell the use of each. Try to name some not given in the lesson.

Tell some ways that animals defend themselves,—ways not told in the lesson.

Why are not the same kinds of animals found on all parts of the earth? Where must each make his home?

Tell how the camel is fitted to its home.

Look closely at the padded toes and the teeth of a cat and tell what use is made of them. What does the cat catch? Why must a cat be quick and strong?

Name some of the common animals and tell their uses.

26. Large wild animals

The torrid zone of the Old World is the home of many large and fierce animals. The elephant, lion and tiger are found in the hot parts of Africa and Asia. Great manlike apes also live there.

In the hot parts of South America there are ant-eaters, great snakes, monkeys and parrots.

Bears and deer are common in the north temperate zone.

There are also wolves and foxes.

Many whales and seals live in the cold seas of the far north. The white bear is often seen on the ice in that region.

There are birds in nearly all parts of the world. The condor is the largest bird that flies. It lives among the mountains of South America. The ostrich is a very large bird whose feathers make pretty plumes. It is common in some parts of Africa.

Many fish are taken from the sea near the shores of all the continents. Others are caught in lakes and rivers.

As we study each continent we shall learn much more about the animals.

Helps. — Name three animals of the torrid zone in Asia and Africa. Name some that are found in the hot part of South America.

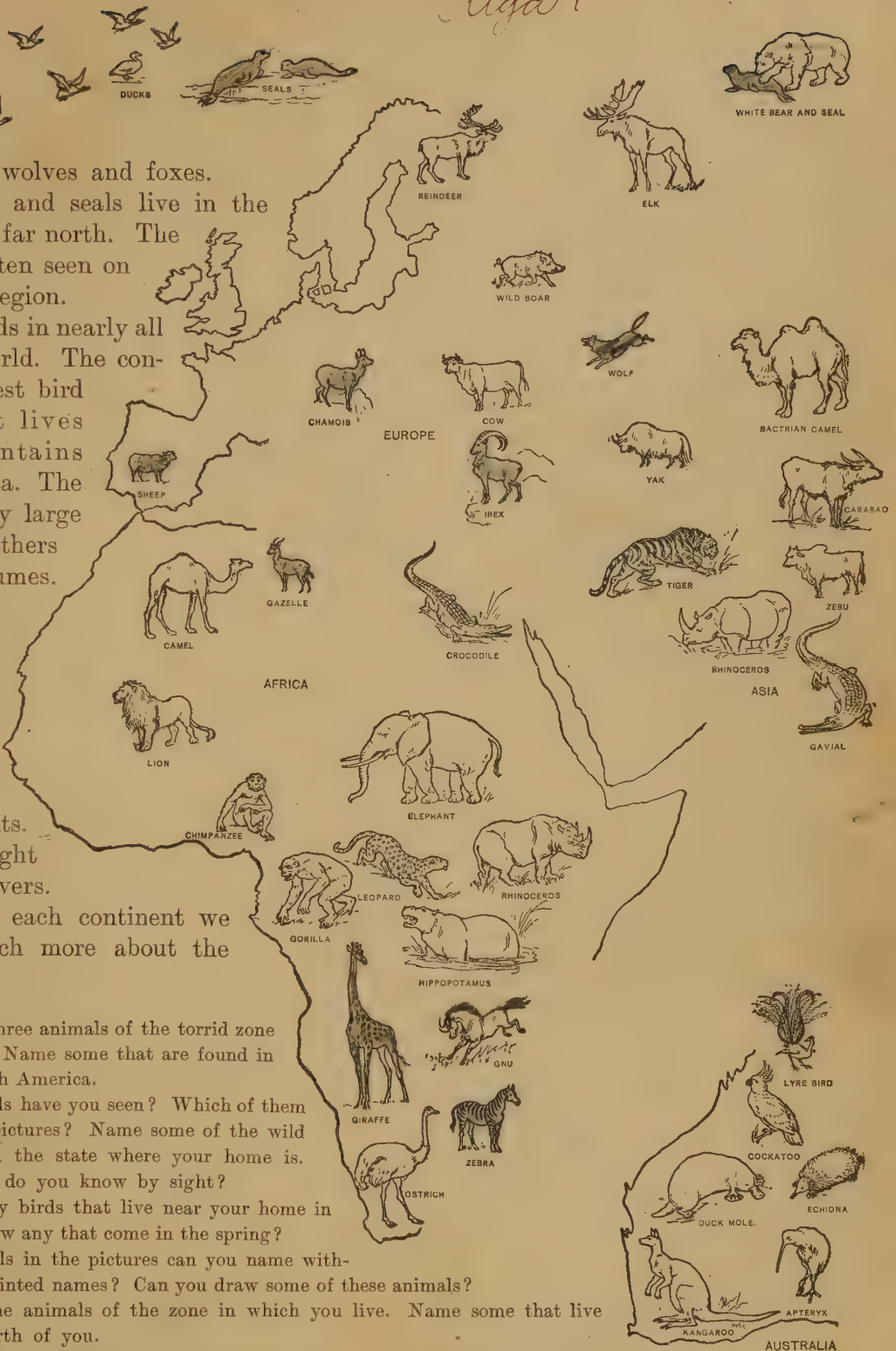
What wild animals have you seen? Which of them can you find in the pictures? Name some of the wild animals that live in the state where your home is. Which of the birds do you know by sight?

Do you know any birds that live near your home in winter? Do you know any that come in the spring?

How many animals in the pictures can you name without looking at the printed names? Can you draw some of these animals?

Name some of the animals of the zone in which you live. Name some that live in the cold zone north of you.

Where is the condor found? What is said about this great bird? Where is the ostrich found? What pretty objects do we take from the ostrich to wear? Where are food fish caught?





Black woman and baby

people or *races of men*. They differ in color and in other ways.

We may name the races by their color.

They are black, red, yellow, brown, white.

Most of the black people live in the torrid zone. They are Negroes. Many of them have broad flat noses and thick lips. Their hair is black and frizzly.

Many black people live in groups or tribes in middle Africa. The air there is hot and moist. Fruits grow wild all the year, and the people need to do very little work.



An African boy

27. The black race

There are five great groups of

RACES OF MEN

Till on Tues

These people wear but little clothing. They make huts of grass or branches of trees. They use bows and arrows, clubs and darts. They make blow-guns out of hollow stems. They catch fish on hooks made of bone.

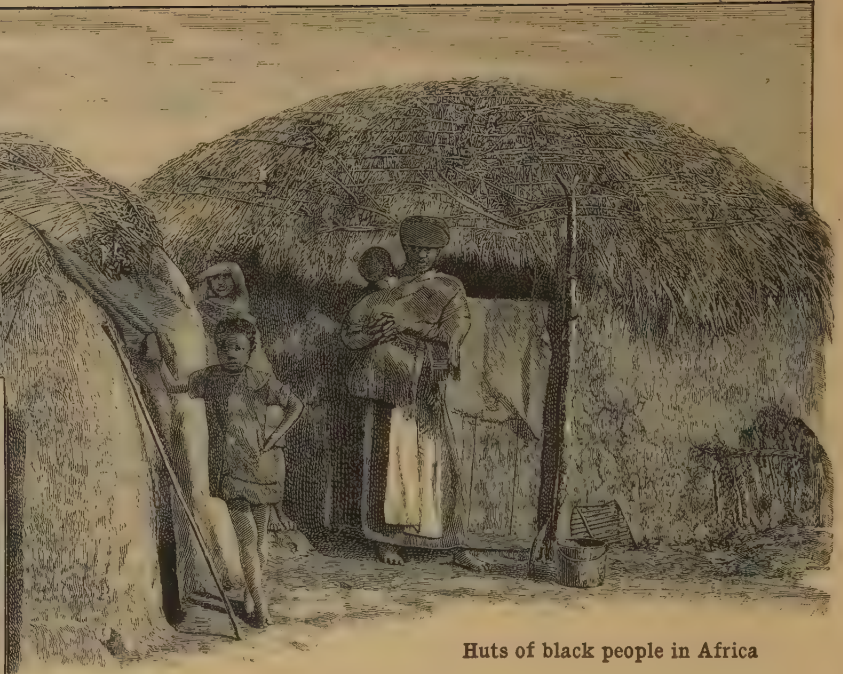
The black people of middle Africa know but little of what white people do. But the black people fish and hunt, cook their food and make simple clothing. Some know how

to raise grain. They have no books. People living in this way are savages.

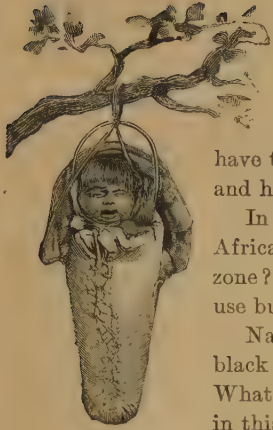
Many Negroes have been carried to lands where white people live. These black people have learned to live as the white people do. There are many in our country.



Black woman at work



Huts of black people in Africa



Helps. — How many races of men are there? Name them by color.

Where do most of the black people live? What other name have they? What is said of their faces and hair?

In what zone is the middle part of Africa? What are the seasons of this zone? Why do the black people there use but little clothing?

Name some of the weapons of the black people. What work do they do? What name do we give to people living in this simple way?

Do you know why many Negroes were carried to the lands where white people live? Name some of the things we see that would surprise a savage boy from Africa.

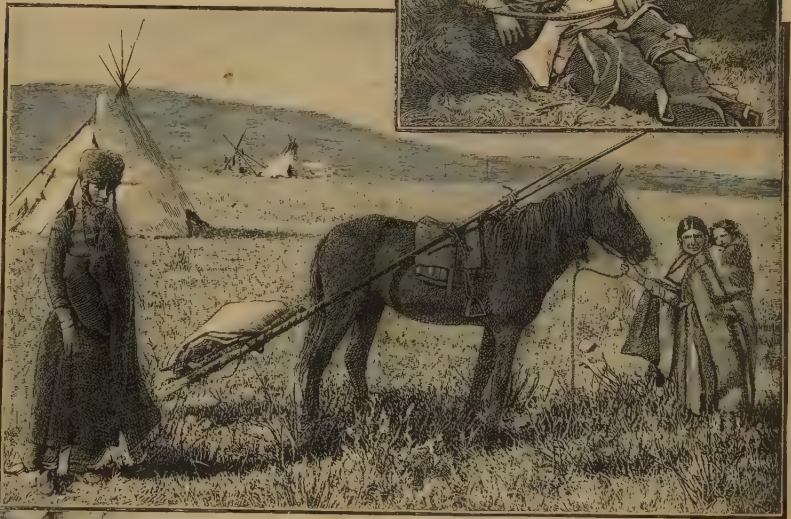
Name some of the animals the black people of Africa see.

28. The red race

The home of the red race is America. The red men were here long before the white men came to settle. We call the red people Indians.

Most of the people of the red race live in the torrid zone. Some are found in the temperate zones.

The pictures show how Indians look. Their hair is *Black*.



Indians and their camps

the people of Europe. They also showed the white man how to make canoes of birch bark.

The pictures show how some Indians live.

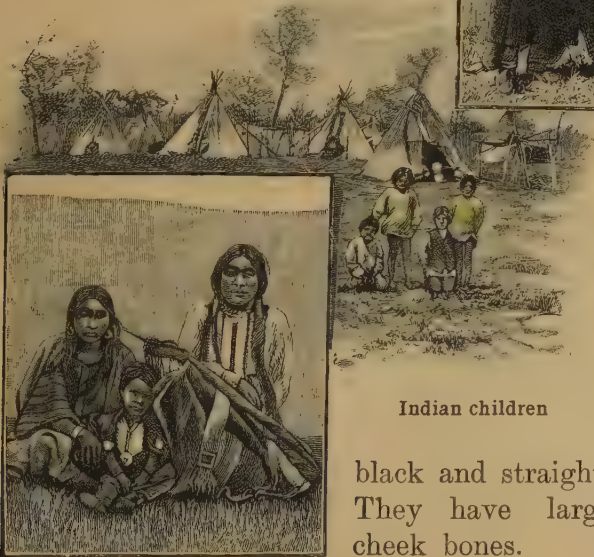
Helps. — In what zone do most of the people of the red race live? In what part of the world do they live? What are they called? In what other zones are some found?

How do the Indians differ in looks from the Negroes?

What is said about the savage Indians of South America? What is said about other Indians of South America?

How do many of the Indians of our country differ from savages? What did the white men from Europe get first from the Indians? Who first made canoes of birch bark?

Name some of the animals the Indians may see in South America; in North America.



An Indian family

Indian children

black and straight. They have large cheek bones.

29. The yellow race

The people of eastern Asia belong mostly to the yellow race. Their hair is black and straight. Their cheek bones are large and their eyes are set aslant.

Perhaps you have seen people from China, and Japan. Their home is in the eastern part of Asia. They belong to the yellow race.

The yellow people have many large cities. They make silk cloth and fine dishes. They raise tea, rice and many other useful plants.

The people of Japan have good schools. They also send young men to other lands to study. In this way they learn how to make many things. They build large ships. They make guns and many kinds of iron tools. They weave cotton and silk into cloth.

The boys and girls of the yellow race play many games. They spin tops, fly kites and walk on stilts.

Most of the people of China live on low land near the sea and near great rivers. They have long canals to carry water to their gardens. Tea plants grow in the hilly parts of China.

Some of the people of China live on boats in the rivers. There are houses and gardens on the boats.

Helps. — Where is the home of the yellow race? How do the yellow people differ in looks from the black people?

Name two countries where yellow people live. The teacher will tell you where China and Japan are.

Name some kinds of work that the yellow people do.

Tell all you can about the people of Japan. Name some things they make. Name some games of the boys and girls of the yellow race.

Where do most of the people of China live? The upper picture on the next page shows a group of yellow people who live in the cold northern part of Europe.

30. The brown race

The islands southeast of Asia are the home of the brown race. Among these are the Philippine islands. They are now under the care of our country.

Some of the brown people have cities and towns. The cities are ports for trading.

Some of the people have good schools.

On some of the islands the people are savages.

The soil of most of the islands is very rich. The brown people raise rice, sugar cane, coffee and many spices.

Fruits grow on all these islands.

Helps. — Where is the home of the brown race? Name one of the groups of islands where brown people live. See picture on next page.

What proves that some of these people are not savages? Name some products raised by the brown people.

Why do white people send ships to trade with the brown people?

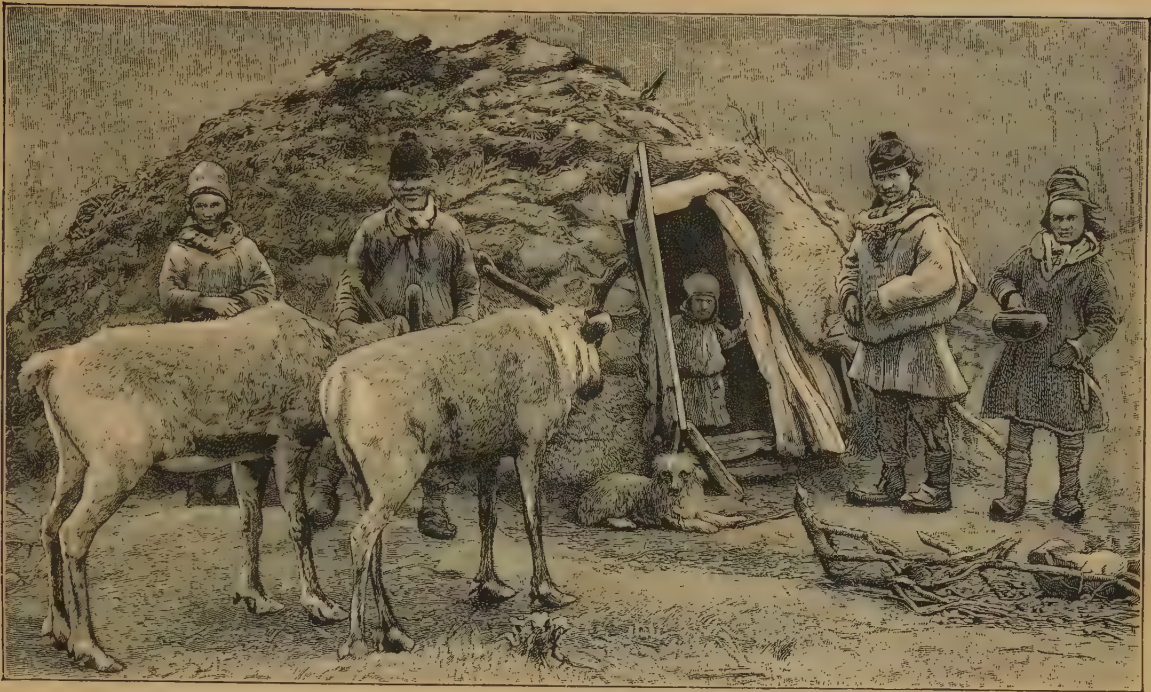
31. The white race

The white race is found in many lands. We shall study these lands in other lessons.

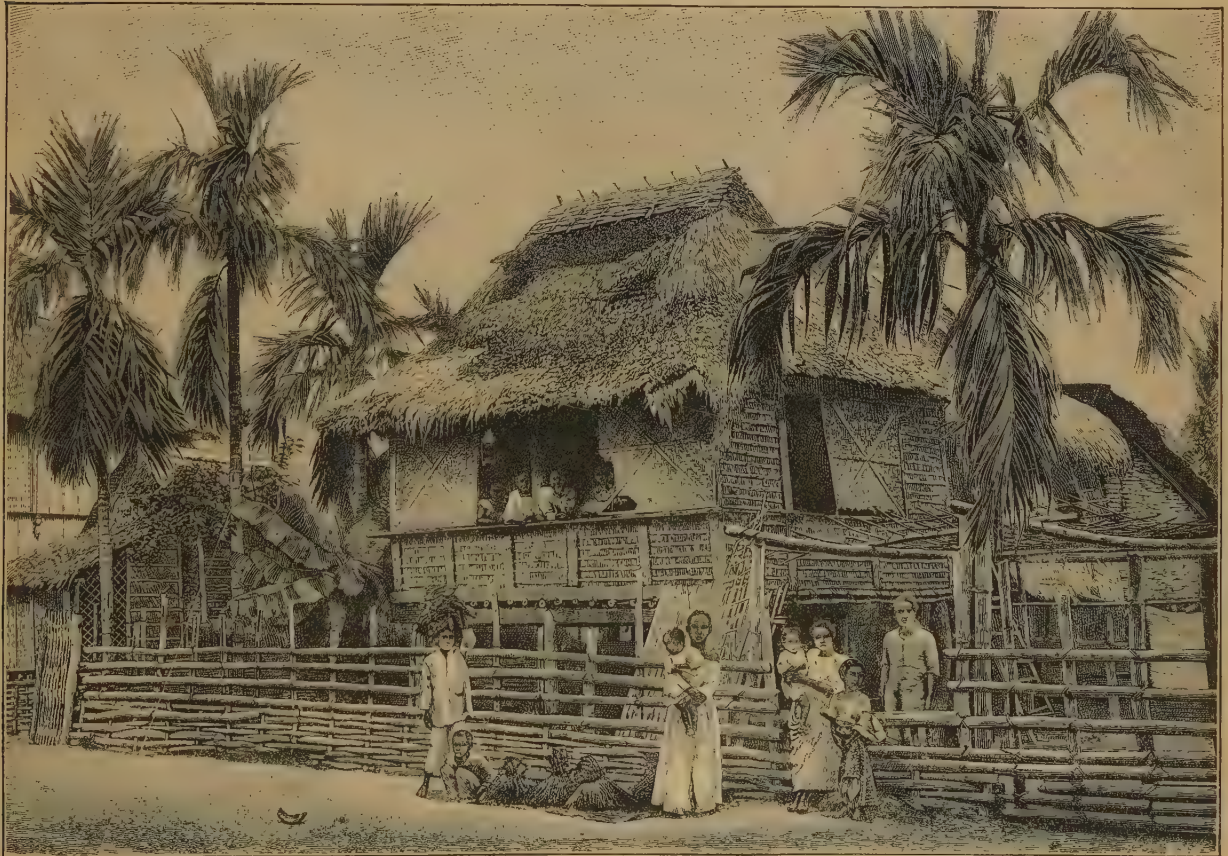
You already know how some of the white people look and dress. The eyes are set straight. The hair is straight or wavy, and may be light or dark. As a rule the lips are thin and the cheek bones are not very large.



Yellow people of Japan



A home of yellow people that live in the cold northern part of Europe



A Filipino home. These brown people live near the equator. What do the two pictures show?

But the skin may vary from white to dark tan or almost black.

Most of the white people live in the temperate zones. They have large fields of wheat, corn and cotton. They raise millions of sheep and cattle. They build great cities and have workshops of all kinds. They send ships to all the large seaports.

The white people have the best schools in the world.

Helps. — To what race do most of the people in your town or city belong? Have you seen people that belong to any other race?

How do most white people differ in looks from the other races?

In what zones do most of the white people live? Name some of the kinds of work that white people do in your town or city.

Write ten questions to which answers can be found on the map on the next page.

32. Why laws are made

All games must have rules. In the game of ball the rules tell how many may play on a side, where each player must stand, which side may bat the ball, when a player may run and when he is put out. If there were no rules, we could not play ball.

Every family has rules. You know at what hour your dinner will be ready, when you must go to bed and when you ought to get up. You know also what games you may play in the house.

Every school has rules. A rule tells when school shall begin and when it shall end. A rule tells what you shall study each year. Perhaps a rule tells to which school in the town you shall go.

Good rules help us to live, work and play in the best way. They tell us what our rights are, and also what rights others have.

People vote to make rules or *laws* that all must obey. They make laws telling how much money each must pay for building roads, bridges and schools. They make laws to punish any person who steals or sets fire to a house.

We obey a law when we put a stamp on a letter. We obey a law when we pay taxes.

People who have their homes near one place may wish to unite in some work. They may wish to make a road that all may use, or they may wish to build a school where all the boys and girls may study. We call such a group of homes a *village*. If it is a large group, we may call it a *town*.

Some large towns are called *cities*. In most cities the people choose or elect officers who make laws and also see that the people obey them. Do you live in a town or a city?

When white people first came to the land where we now live they settled in groups or *colonies*. Many towns soon grew up. The people found that they could do some kinds of work better when the colonies banded together. They could then protect themselves better from the Indians. They could build better roads from town to town. They could make good laws for trading. Thus many small colonies joined to

make a few large ones.

The colonies chose men to make laws. They also chose officers to carry out the laws.



The white race. An ideal head



Dark branch of the white race. An Arab school

The large colonies were later called *states*. At first there were thirteen of these states. Now there are many more.

Long ago the thirteen states helped one another in a great war. They called themselves the *United States*. They chose men to make some of the laws for all the states.

Since then other men have been chosen and many laws have been made. Some tell what stamps to put on letters. Others tell how much money may be spent to deepen harbors and rivers.

Some of the laws tell how money shall be printed or stamped. Others tell where lighthouses shall be built and where men with boats shall be ready to save people wrecked in ships. Still other laws explain who may come from other lands to live in the states. There are also many other laws.

Helps. — What game do you like best? What are some of its rules? Can you think of any game that can be played without rules?

What are some of the rules in your school? Of what use are rules in games? If there were no rules, when would school begin? Without a rule when would you have a vacation? Of what use are good rules?

Give another name for a rule. If there were no laws, who would build roads? Who would then keep bad men from robbing your home and burning it?

How much does the law tell us to put on a letter? If you mail a letter without putting a stamp on it, what happens?

Why do laws make people pay taxes? If there were no taxes, what would happen in the town or city where you live?

Who make the laws? Who then really make the people pay taxes for roads and schools?

What is a village? How does a town differ from a village? What are some large towns called?

What name was given to groups of people that settled in America? Why did some colonies unite?

Can you tell why groups of towns like to have the same laws?

What name was later given to the large colonies that chose officers to make laws for all?

Can you tell why we call our land the *United States*? Would it be just as well if each town had a post office that did not have the same stamps or the same rules as in other towns?

Some long rivers flow across several states. If one part of the river needs to be made deeper, who should pay for the work?

Who are helped by the work?

Ships from all parts of the world bring goods for all the people of our land. Who should pay for making the harbors deeper? Who should build lighthouses so that the ships may not be wrecked? Who are helped by such work?

There are many laws not made by man. We call them laws of nature. We have studied a few of them.

Thus it is a law of nature that rain shall fall, that a brook shall flow downhill, that rocks in the open air shall crumble away, that plants shall die if they do not have water, that the earth shall turn on its axis every day, that the earth shall go round the sun once a year. Can you name any others?



33. Government

Savage people live in groups called *tribes*. A *chief* rules each tribe. He is often the best fighter in war. The people obey him or he may kill them.

A chief is the *ruler* of his tribe. We may say that he governs the tribe. He makes rules or laws, and he forces the people to obey him.

Most of the red people and the black people live in tribes and have chiefs.

There are many groups of people that do not have chiefs for rulers. Some of the groups are very large. Others are small. They are people who know more than savages and live better. We call such groups of people *nations*. Nearly all the white people

the laws. The President is the chief executive officer of our nation.

The land in which a nation lives is a *country*. The city in which the laws are made is the *capital*. This word means the *head city*.

The people of our nation are *Americans*. Most of them belong to the white race. Our country is the *United States*. Its capital is the city of Washington. The nation is a republic.

When we wish to know how the laws of a nation are made and what power the ruler has, we ask what the kind of *government* is. By government we mean the way a nation is ruled.

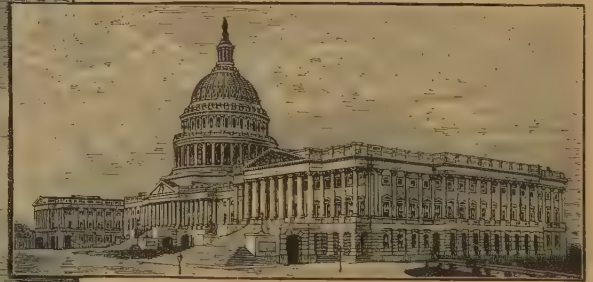
Helps. — Who rules over a tribe? What kind of people live in tribes? What power has a chief? What races live mostly in tribes?



The White House



Washington Monument



Capitol, Washington

and the yellow people live in *nations*. We belong to a nation.

A nation is a group of people higher than savages, but under one ruler. He may claim the right to rule because his father or mother was the ruler before him. Or the people may choose or elect him.

One who rules by right of birth is a *king* or a *queen*. We call the nation a *kingdom*. Several kingdoms may unite to form a great *empire*. The ruler is then called an *emperor*.

A nation that elects its own ruler is a *republic*. The ruler is a *president*. *U.S.A.*

In a republic the people choose three kinds of officers. Some make laws. Others decide how the laws apply to disputes that arise. Still others are chosen to make all the people obey the laws. Thus we have lawmakers, judges and officers who *execute* or carry out

How does a nation differ from a tribe? What races live mostly in nations? What is a nation?

How do men become rulers of nations? What is a king? What is a queen? What do we call a nation having a king or queen?

What is an empire? Who rules over an empire?

What is a republic? What three kinds of officers are chosen in a republic?

In your town who decides when a law is broken and tells how to punish a person for the act? Who see that the people obey the laws? Can you name one of the laws of your town? Who made the law?

What is the work of lawmakers? What is the work of judges? What do we call the officer at the head of a republic?

What is a country? Where are its laws made? What does "capital" mean?

What do we call the people of our nation? To what race do most of them belong? In what country do we live? Name the capital of the United States.

What do we wish to know when we ask what kind of government a nation has? Name a republic.

34. Surface of North America

We live in North America. This continent has the form of the letter V, with oceans on three sides. Hudson bay is on the north coast. The gulf of Mexico is on the southeast.

The coast is broken by many other bays and peninsulas. Some bays form good harbors for ships. The bays on the north coast are of little use, as they are frozen most of the year.

Look at the relief map on the next page. Most of the western part is high land. This is the Western highland. It has many mountains.

There are many low ranges not far from the east coast. These are in the Eastern highland.

A broad plain lies between the highlands in the west and the east. This is the Central plain.

There are many large lakes in this plain. They hold over half of the fresh water upon the earth. Five of them are called the Great Lakes. See map on page 41.

Find the Mississippi river on the map. It flows to the gulf of Mexico. This great river has many branches. They are in the warm half of the Central plain.

This continent is north of the equator. Part of it forms the shore of the cold Arctic ocean. This part is in the north frigid zone.

The southern part of the continent is in the torrid zone. There all the days are hot or warm.

The largest and best part of the continent is in the temperate zone. Here the summers are hot and the winters cold. This is the part we live in.

The Central plain in the far north is very cold and little grows there. The middle part of this plain has the best grain lands in the world. The southern third of the plain is noted for cotton.

Helps. — What is the form of North America? Name a bay on the north. Name a gulf on the south-east. What else is said about the coast?

Which part of North America has a long and wide highland? What is it called? In what other part is there a highland?

Where is the largest plain of this continent? What is it called? Where are the Great Lakes? What is said of the lakes in the Central plain?

In which part of the plain is the Mississippi river? To what gulf does it flow?

Which part of this continent is the coldest? Which part is the hottest? In which zone do we live? What are the seasons in this zone?

Which part of the Central plain is coldest? On what ocean does it border? On what gulf does the warm part of the plain border? Name some products of this plain.



Niagara falls. The water flows from lake Erie to lake Ontario. On the way it falls over high cliffs in the river bed, making one of the grandest sights in the world



RELIEF MAP OF NORTH AMERICA

35. Map studies

Note. — A ball is a globe. The earth is a globe. The round maps in this book are *globe maps*.

The map on the opposite page is a relief map. On it you can see mountains, valleys, plains and rivers.

The map on this page gives the names of some of the forms of land and water in North America.

Find the *Arctic circle*. All north of that line is the frigid zone. South of it is the temperate zone. It reaches to the *tropic of Cancer*. This line crosses the gulf of Mexico. South of this line is the torrid zone.

The map on this page also shows by colors the height of the land above sea level. The low plains are shown by the color green. They are mostly in the eastern half of the continent.

The buff or pale yellow shows the high plains or plateaus, but only up to 4000 feet above sea level. All parts of the continent over 4000 feet high are shown by the red. This color appears chiefly in the western third of the continent.

Map studies. — What ocean is west of North America? — east of it? — north of it?

Where is the isthmus of Panama? What does it join? What strait cuts Asia from North America? The relief map shows the Western highland. Where is its widest part? In what direction do most of the ranges run? *South*

Which is the higher, the Eastern or the Western highland? What plain is between these highlands?

In which zone is most of this continent?

What ocean is north of Alaska? What ocean is south of it? What sea is west of it? Alaska belongs to the United States.

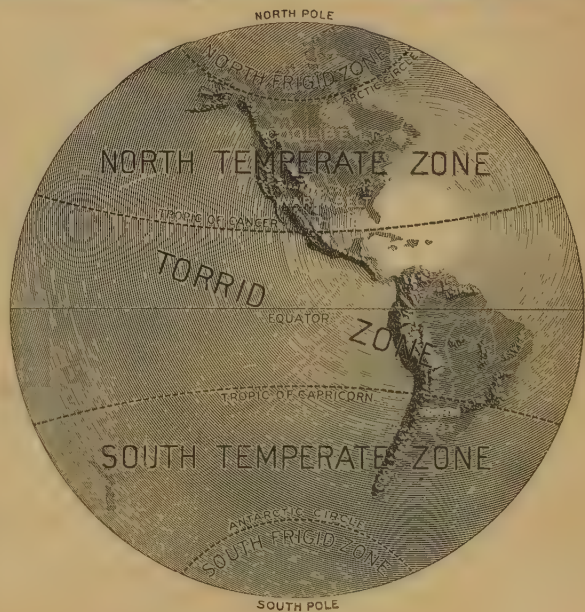
In which part of North America is Canada? What country is south of it? What three oceans border on Canada? Where is Hudson bay?

Between what oceans is the United States? What great gulf is on the south? What country is on the south? What country is on the north?

What ocean is west of Mexico? What gulf is east of it?

Where is Central America? Several small countries form Central America. Where are the West Indies? What sea is south of Cuba?

Where is the large island of Greenland? In which zone is most of it? Where is Iceland? See page 43.



Dec 20.
36. People and countries

The first white people in America came over the ocean from Europe. They found here many tribes of red men or Indians.

More than half the people of Mexico and the lands south of it are Indians.

Some red men live in the United States. Nearly all are west of the Mississippi river. A few tribes of red men live in Canada.

Here is an odd cradle. It often hangs on a tree. Day after day the Indian baby swings in it. Often he takes a ride on his mother's back. When he is old enough he will be tied on a horse. In this way he will learn to ride. He will also learn to use the bow and arrows.

Indian boys run races, swim, play ball, hunt and fish in the streams.

Many Indians live in tents, but some have houses made of wood or brick. Some Indians plant grain and tend cattle.

Let us visit the Indians in the evening. A drum is calling the men to a dance round the camp fire. At first they dance slowly. Then the drum beats faster and they leap and yell as if in a fight.

The boys like to see the dance. Some day they will dance round the fire. Now they are not old enough.

Indian girls cook and work in the gardens. They help skin the animals that have been killed. But they also find some time for play. They are very fond of dolls.

Some Indians can use the rifle. Millions of the red men in South America use the bow and arrows or the blowgun.

In the hot zone they wear little clothing and build their huts of branches, for the air is never cold.

Many Negroes were once slaves in North America. They were brought from Africa. They are now free. Most of them live in the warm parts of the continent.

Most of the people of North America are white. They have great cities with tall houses made of stone or brick. They have built many railroads. Their ships sail on all the oceans.

Some of the boys and girls of America live on farms. Their fathers raise wheat, corn, cotton or other crops. Some tend herds of cattle.

Others live near workshops. They see men shape hot iron into many kinds of tools and machines. Some live near mills where cloth or boots and shoes are made. This is a land of busy people.

Tribes of yellow people live in the far north. They are Eskimos. They hunt seals and catch fish in the cold ocean.



Indian mother and her baby

There is a picture of an Eskimo boy on page 44. When this boy was a baby he slept in a bag of feathers. Now he wears clothing made of sealskin. On cold days he draws a warm hood over his head.





Eskimos of the far north

boy was there also, but both went to live in the cold north, where the boy could grow up to hunt the seal.



Eskimo baby

The Eskimo boy goes with his father to hunt seals. They have a sled drawn by dogs. They also have a canoe.

What wonderful things has this boy seen that his playmates cannot see in their far-off home?

The children in the round picture live in Mexico. Their home is in a warm land, and they need only light cotton cloth for clothing. They play out in the open air with bare heads and bare feet, while the Eskimo children must cover their heads and feet with warm sealskins, even in summer, because they live in another zone.

The boy takes care of the dogs while his father creeps up to a great block of ice. There is a seal behind it. The man throws his spear and kills the seal. It seems cruel, but these people eat the meat.

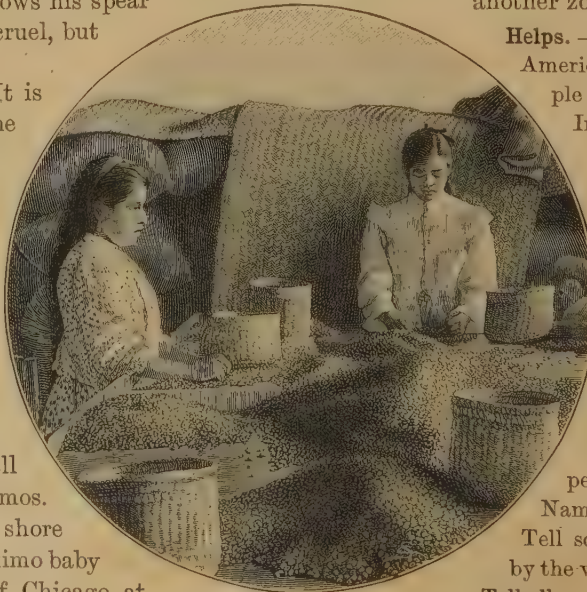
Let us go into the hut. It is smoky but warm. Look at the upper picture on page 66.

It is too cold to raise wheat where this boy lives. He never saw bread. There is no grass for cattle.

The Eskimos catch fish and sea birds. They also hunt the great white bear.

White people go to the cold sea of the north to hunt seals and whales. They sell knives and needles to the Eskimos.

These people live on the shore of the Arctic ocean. This Eskimo baby was born in the great city of Chicago, at the time of the World's Fair. The Eskimo



Sorting coffee berries

Helps. — What people first lived in America? Where did the white people come from?

In what parts of North America do red men now live? What is said about the Indians in the lands south of us? Tell what you can about the Indians. Where did the black people of America come from? Why were they brought here? In what part of the continent do most of them live?

To what race do most of the people of North America belong? Name some of the things they make. Tell some of the kinds of work done by the white people of America.

Tell all you can about the Eskimos. What does the Mexican picture show?

37. Climate and plants

We have learned that parts of North America are in three zones. The northern part is in the frigid zone. It is too cold for fruits and grain. A few stunted trees grow there. During the few warm weeks of summer the

Let us start in the far south. This part is in the torrid zone. Here the map shows sugar cane, tobacco and coffee. There are also many kinds of fruit.

The plains near the gulf of Mexico are the best cotton lands in the world.

The plains near the Great Lakes are the best grain lands in the world. The chief grains are corn and wheat. Tobacco also grows there.

Fruit trees grow in most parts of this continent. There are oranges, apples, pears, peaches and many other kinds of fruit.

Trees for lumber grow in many places. The map shows only a few of them.

Helps. — In what zone is the northern part of this continent? Why cannot fruits or grain grow there? What can grow in parts of the frigid zone?

Which part of North America is in the torrid zone? What seasons has this hot zone? Why do many plants grow best in the

torrid zone? Name some plants of the torrid zone in North America.

In which zone do we live? What seasons have we? Name some products that grow in your part of the

country. Name a useful plant that grows in the plain near the gulf of Mexico. Where are the best wheat and corn lands?

Name some fruits raised in this continent. Name some of the uses of trees. What grow on the large islands south-east of our country?

We must not think that the map shows all the plants that grow in the continent. It shows a few of the most useful ones, that men raise on great farms and sell to other people. But there are many others also that are very useful. Perhaps you can name some of them.

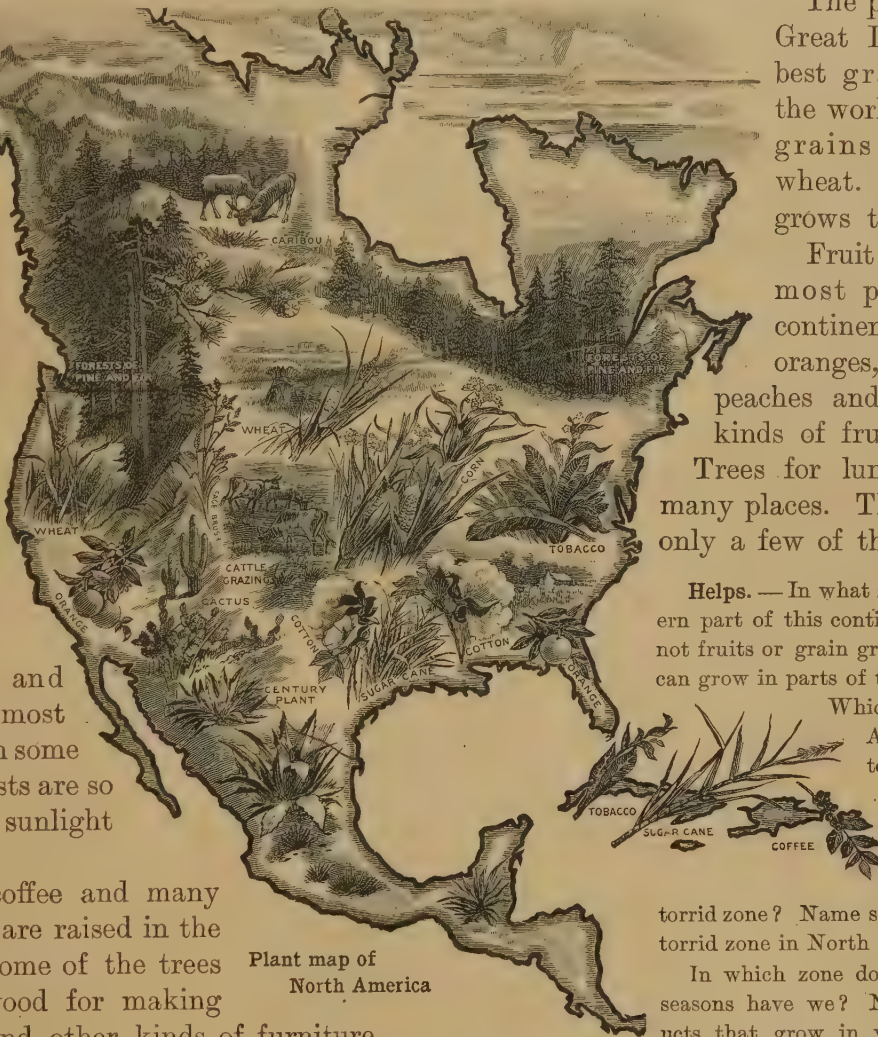
topsoil thaws and wild flowers spring up. A large part of the year the ground is buried under snow.

In the far south the air is hot or warm all the year. This part is in the torrid zone. Plenty of rain falls and plants grow almost everywhere. In some places the forests are so thick that the sunlight is shut out.

Bananas, coffee and many other products are raised in the torrid zone. Some of the trees yield pretty wood for making chairs, tables and other kinds of furniture.

Between the hot zone and the cold zone lies the best zone of all. It is the temperate zone. It has the most people, the largest cities, the best farms, the most cattle. It is the zone in which we live. It has long, hot summers, and cold or cool winters. It includes most of the continent of North America.

Here is a plant map of North America. It shows where the most useful plants grow.



Plant map of
North America

38. Animals of North America

White men first came to North America about four hundred years ago. After some years they brought cows, horses, sheep and hogs from Europe. There are millions of these animals here now.

Many wild animals live in this continent. Black bears are seen in the mountains and

forests. The white bear lives in the frigid zone. It catches fish and seals for its food. This is the largest of the bear family.

The grizzly bear is very fierce. It has long curved claws. Its home is in the Western highland. Many of the grizzly bears have been killed, and very few are now to be found.

There are many deer. They feed on grass and tender branches. Most of the deer are now found in the forests. The moose is the largest of all the deer family. It is common in the forests of the northeast part of the continent.

Years ago there were many bison in the Central plain. Nearly all have been killed. A few live in the Western highland, but most of them are in public parks. They are large and strong. The bison and the ox belong to

the same family. The bison is often called the buffalo.

Among the smaller animals are the big-horn or Rocky mountain sheep, the wolf, fox, opossum and peccary. The turkey is a native of the New World and is still found wild.

Many fur animals live in the cold parts of the world. They need their warm fur where they live.

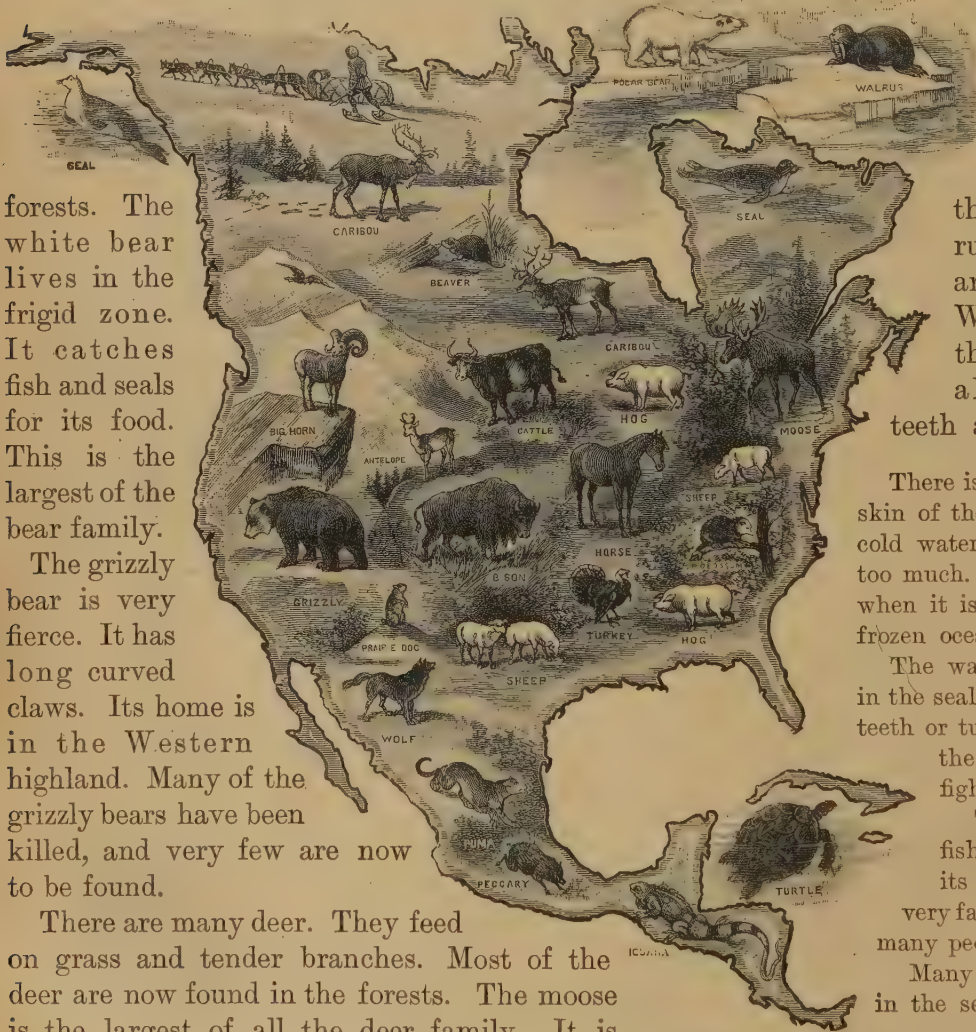
Useful animals are found in the cold water of the frigid zone. Among these are the seal, the whale and the walrus. The skins of seals are made into clothing. Whales are killed for their oil. The walrus also supplies oil. Its teeth are made of ivory.

There is a layer of fat under the skin of the whale. This keeps the cold water from cooling the body too much. Oil comes from the fat when it is heated. Men go to the frozen ocean to hunt for whales.

The walrus is very large. It is in the seal family. It uses its long teeth or tusks to dig shellfish from the bottom of bays. It also fights with its tusks.

The seal feeds mostly on fish. It catches them with its sharp teeth. It can swim very fast. Sealskins are worn by many people in cold lands.

Many kinds of fish are caught in the sea, rivers and lakes.



Helps. — Name some animals that the white men carried to North America.

Which is the largest bear? Where is it found? What does it feed on? What is said about the grizzly bear? — about deer? — about bison? — about smaller animals?

In what part of the world are many fur-bearing animals found? Can you think why they are found in cold lands?

What can you tell about the whale? — the walrus? — the seal?

THE UNITED STATES

39. Western highland and Pacific slope

The Western highland covers one third of this country. It is also called the Rocky mountain highland. *See map on page 41.* This highland is wide and high. It has many long ranges, most of them running north and south. The highland has rich mines of gold and silver. **Denver** is a center for mining supplies.

The Rocky mountains are on the east side of the great highland.

They have many high peaks.

These mountains rise from a high plateau. Many parts of it are a mile above the sea. The mountains on the east and west sides of the plateau cool the clouds and take out most of the rain.

The dry middle region of the plateau is called the *Great Basin*. Its small rivers flow into salt lakes.

There is a little salt in nearly all soil. Rain water washes it out and carries some of the salt to rivers.

There is not enough to make the river water taste salt.

Some rivers flow into lakes and carry the salt with them. If rivers flow out of the lakes, they carry the salt with them. If no rivers flow out, the salt is left there. After many years such lakes become salt.

Find Great Salt lake on the map. No river flows out of this lake and its water is very salt.

Salt Lake City is not far from this lake. The fields near it are watered by streams from the mountains. This city is the home of the Mormons.

The Colorado river flows from the Rocky mountains to a gulf on the Pacific coast. Parts of this river flow between steep cliffs.

They are walls of solid rock. In places the rock rises over a mile above the river. The rocks have many colors, such as gray, brown, red, yellow and blue.

The Columbia river rises in the Rocky mountains. It flows to the Pacific ocean. The city of **Portland** is on a branch of this river. **Seattle**, a thriving trade center, is on Puget sound, farther north.

Two high ranges rise near the west coast. They are the Sierra Nevada and the Cascade range.

The region west of them is the Pacific slope. "Sierra" means a *range looking like saw-teeth*. "Nevada" means *snowy*. A cascade is a little waterfall.

Low Coast ranges lie near the Pacific shore. The valleys between these ranges are very fertile. **San Francisco** is the largest port on the Pacific coast. It is on a deep harbor.

Helps.—Look at the large relief map of the United States and tell all you can about its sur-

face. Where is the Western highland? Where are the Rocky mountains? Tell what you can about them. What is west of them?

Where is the Great Basin? Can you tell why the Great Basin has so little rain?

How are salt lakes formed? What is said about Great Salt lake? What city is not far from the lake?

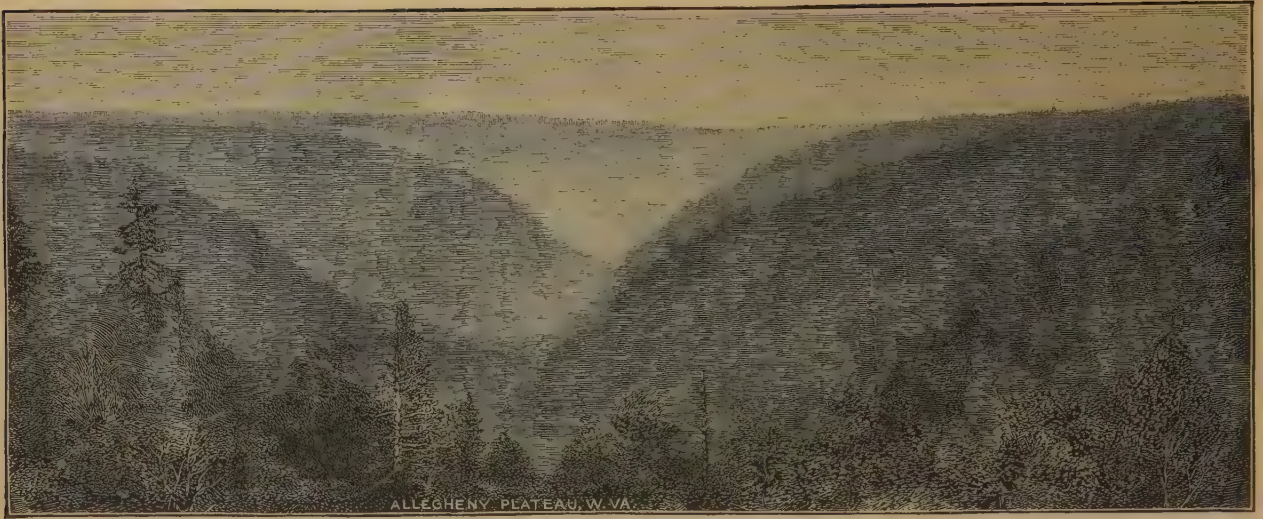
What is said about the Colorado river? What does the picture on this page show? Where is the Columbia river? What is said about Portland?—about Seattle?

What two high ranges are not far from the Pacific coast? What does "Sierra Nevada" mean? What is a cascade? We saw a picture of a waterfall on page 2.

What name is given to the low ranges close by the shore? What is said about San Francisco?



Canyon of the Colorado



Typical scene in the Appalachian highland; valleys cut in plateau

40. Eastern highland and Atlantic slope

The Eastern highland is also called the Appalachian highland. *See map on page 41.* It is long and narrow. It is not very high. The pictures on this page show how parts of it look, with low plateaus and rounded peaks.

This highland has plenty of rain and is green with trees. Its rocks yield coal and iron.

The slope east of this highland is the Atlantic slope. Many short rivers flow down this slope to the sea. Some are deep enough to float large vessels to inland towns.

In the south this slope is part of the Southern plain. It has great fields of cotton.

The northern part of this slope is narrow. The coast has many great ports. They are on deep harbors. One of these is **New York**, at

the mouth of the Hudson river. This is the largest city in all America.

Helps. — Where is the Eastern highland? What coast is east of it? Which is the wider, the Eastern or the Western highland? Which is the higher? Name two useful minerals taken from the Eastern highland.

Where is the Atlantic slope? What is said about its rivers? Name two products of the southern part of this slope. What is said about the northern part of this slope? Where is New York? What is said about it?



Mt. Mitchell, the highest peak in the Eastern highland

41. Central plain

The Central plain lies between the highlands. About half of it is in

the United States. The other half is in Canada.

Names are given to parts of this plain. The part near the Arctic shore is the Northern plain. It is very cold. Its soil is frozen nearly all the year, and plants spring up only during the few warm weeks of summer.



Relief map of the United States showing natural regions

The Southern plain is near the gulf of Mexico. It is in the warm part of the temperate zone. It has plenty of rain all the year. This part of the plain is very fertile. It has the best cotton lands in the world. It also yields rice and sugar cane.

The Western plain is east of the Rocky mountains. It receives little rain, but some of the land is watered by streams from the mountains. Good grass for cattle grows there.

The richest grain lands in the world are south and west of the Great Lakes. They are called *prairies*. The soil is fertile and there is plenty of rain. **Chicago** is the largest city of the prairies.

The Mississippi is the largest river of the Central plain. It has many long branches. From the west flow the Missouri, Arkansas and other rivers to join it. The Ohio river flows from the east. There are steamboats on these great rivers. **Cincinnati** and **Pittsburgh** are large river ports on the Ohio.

The great stream from the source of the Missouri river to the mouth of the Mississippi is often called the *Missouri-Mississippi*. It is the longest river in the world.

St. Louis is the largest city on the Mississippi river. It has a large river trade. **New Orleans**, a cotton market, is about a hundred miles from the mouth of this river.

The city of **St. Paul** is at the head of steamboat navigation on the Mississippi.

Helps. — Where is the Central plain? In what two countries is it? What part of this plain is near the Arctic coast? Why do not many plants grow in the far north?

Where is the Southern plain? In what zone is it? Why is it fertile? Name some products of the Southern plain.

Where is the Western plain? What is said of its water supply? What grows there? Where are the prairies? What is said of the rain and soil in the prairies?

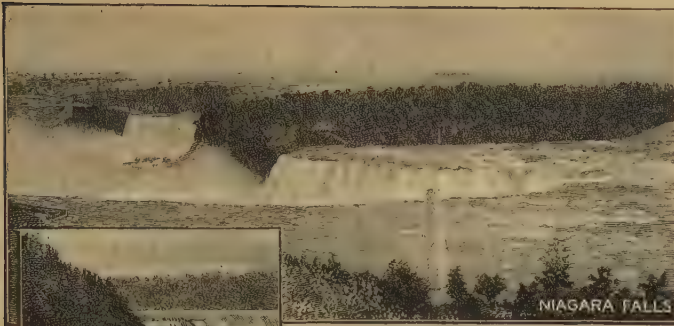
What great river flows in the Central plain? In what mountains do the Missouri and Arkansas rivers rise? From what highland does the Ohio river flow? What is said about the Missouri-Mississippi river?

Name two ports on the Ohio river; two on the Mississippi river. What is said about St. Paul?



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RELIEF MAP OF THE UNITED STATES



42. Great Lakes

Five great bodies of fresh water are known as the Great Lakes. They are in a chain of valleys. Only small rivers flow into them. The St. Lawrence river flows out of one of them. The map gives their names.

These lakes are in one of the richest re-

gions of the earth. It has the largest fields of wheat and corn. It has forests of hard and soft wood. It has the best grass lands and the richest iron mines.

Thousands of steamers go from port to port on the lakes and carry these products. Large cities have grown up near the lakes. Chicago is the largest lake port of the world. It ships the most wheat and corn. It sells the most meat. It has the most railroads.

The Great Lakes are in wide and deep valleys. Lake Superior is the largest. The surface of its water is about 600 feet above sea level, but the bottom of this lake, like

that of each of the others except lake Erie, sinks lower than the level of the sea.

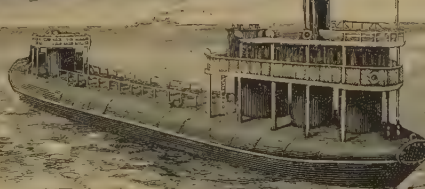
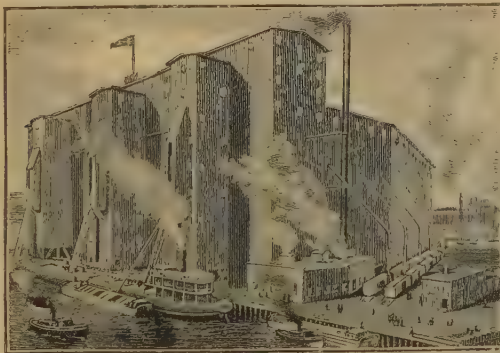
The water of lake Superior is higher than lake Huron and a swift river flows from the upper lake to the lower. This is the *St. Marys river*. Great canals have been built past the rapids in this river, so that steamers can go from lake to lake. These steamers carry iron, copper, wheat and lumber from the region round the upper lake.

Chicago and Milwaukee are large ports on lake Michigan. No canal is needed for boats going from this lake to lake Huron nor to reach lake Erie. At the eastern end of lake Erie, at the city of **Buffalo**, the long Erie canal begins. Boats can go by this canal across the great state of New York, reach the Hudson river, and then go down this river to the great city of **New York**.

The Niagara river flows from lake Erie to lake Ontario. In one place the river leaps over a cliff that it has worn in the rock. The water falls into a deep gorge. The falls of Niagara are noted for their size and great beauty.

Part of the Niagara river turns great wheels. These run machines that make electricity. This is carried on wires to cities and towns. There it lights houses, runs cars and supplies power to mills.

The St. Lawrence river is the outlet of the Great Lakes. Steamers can go down this river from the lake to the sea.



Grain elevator and steamer

Helps. — Where are the Great Lakes? Name them. Name some of the products of the prairies and other lands round the Great Lakes.

Why are so many steamers needed on these lakes? Why have cities been built near the lakes? What is said about Chicago? Tell all you can about lake Superior; St. Marys river; the other lakes; the Erie canal.

Where is the Niagara river?

For what is it noted?

What use is made of part of the water of Niagara river?

Name the outlet of the Great Lakes. In what lake does it have its source? To what ocean do the Great Lakes send water?

Locate all cities named above and tell what is said of each.

43. Map studies

In which hemisphere do we live? See page 20. What two continents are in this hemisphere? In which of them do we live?

What is the name of our country? In which part of the continent is it? See the little map of North America on the next page. Between what countries is the United States? Which looks the larger on the map, our country, or Canada or Mexico?

What ocean washes the east coast of the United States? — the west coast? Where is the gulf of Mexico? On which border of the United States are the five Great Lakes? What river forms their outlet?

Which part of our country has the greatest highland? Lift this leaf and you will see a relief map on page 50. In what general direction do most of its ranges run? What great range lies along the east side of this highland? Name two ranges along its west side. Where are the Coast ranges? Where is the Great Basin?

What two names are given to the highland a little back from the Atlantic coast? See page 48. In what general direction do most of its low ranges run? On which side of this highland are the longest rivers?

What great river system drains most of the Central plain in this country? Name a long branch from the east. Name three large branches from the west. Where is the source of the Mississippi? Where is its mouth?

Between what countries does the Rio Grande flow? In what mountains does this river rise? In what mountains does the Colorado river rise? To what body of water does it flow? What great river rises in Canada, crosses into our country and flows to the Pacific ocean? To what sea does the Yukon

river flow? See corner map of Alaska on page 53.

Name the states that border on the Atlantic ocean. Which state is farthest east? What bay is between this state and the peninsula of Nova Scotia? In which state are the White mountains? See lower right corner map. In which state are the Green mountains?

What river flows between the White and the Green mountains? Into what sound does it flow? The name "sound" is often given to bodies of water partly shut in by islands. What island gives its name to this sound?

In which state is Cape Cod peninsula? What cape is at the end of this peninsula? The body of water between this peninsula and Maine is often called Massachusetts bay.

In which state is the Hudson river? What great city is at its mouth? This river flows into New York bay. Which states are separated by the Delaware river? — by Delaware bay? — by Chesapeake bay? — by the Potomac river? See lower right corner map.

In which state is cape May? — cape Hatteras? — cape Fear? — cape Canaveral? — cape Sable? Between which states does the Savannah river flow? Which state forms a long peninsula?

Name the states that border on the gulf of Mexico. In which is the delta of the Mississippi? The city of Mobile is on Mobile bay; in which state is it? The city of Galveston is on an island at the mouth of Galveston bay; in which state is it?

What two gulf states are partly separated by the Mississippi river? — by the Sabine river? In which state is the Brazos river? What river separates Texas from Mexico?

In which state is the source of the Mississippi? Name the states along the left or east

bank of this river; along the right bank. Name the states along the north bank of the Ohio river. On what lake does each of these states border? What states are on the south bank of the Ohio river?

Name the states that border on lake Erie; on lake Michigan; on lake Superior. Which of the Great Lakes does the state of Michigan touch?

Name the states in the row between North Dakota and Texas. Name four states partly separated by the Missouri river.

Which states would you call the "Rocky mountain states"? In which of these states is the greater part of Yellowstone park? In which is Pikes peak?

What country is southwest of the United States? Name four states that lie along the northern border of Mexico. Name the states that border on Texas. In which state is Great Salt lake?

Name two states partly in the Great Basin. In which state is the greater part of the Sierra Nevada? What high mountains are between Montana and Idaho? Between what states does the Columbia river flow? What range crosses these two states?

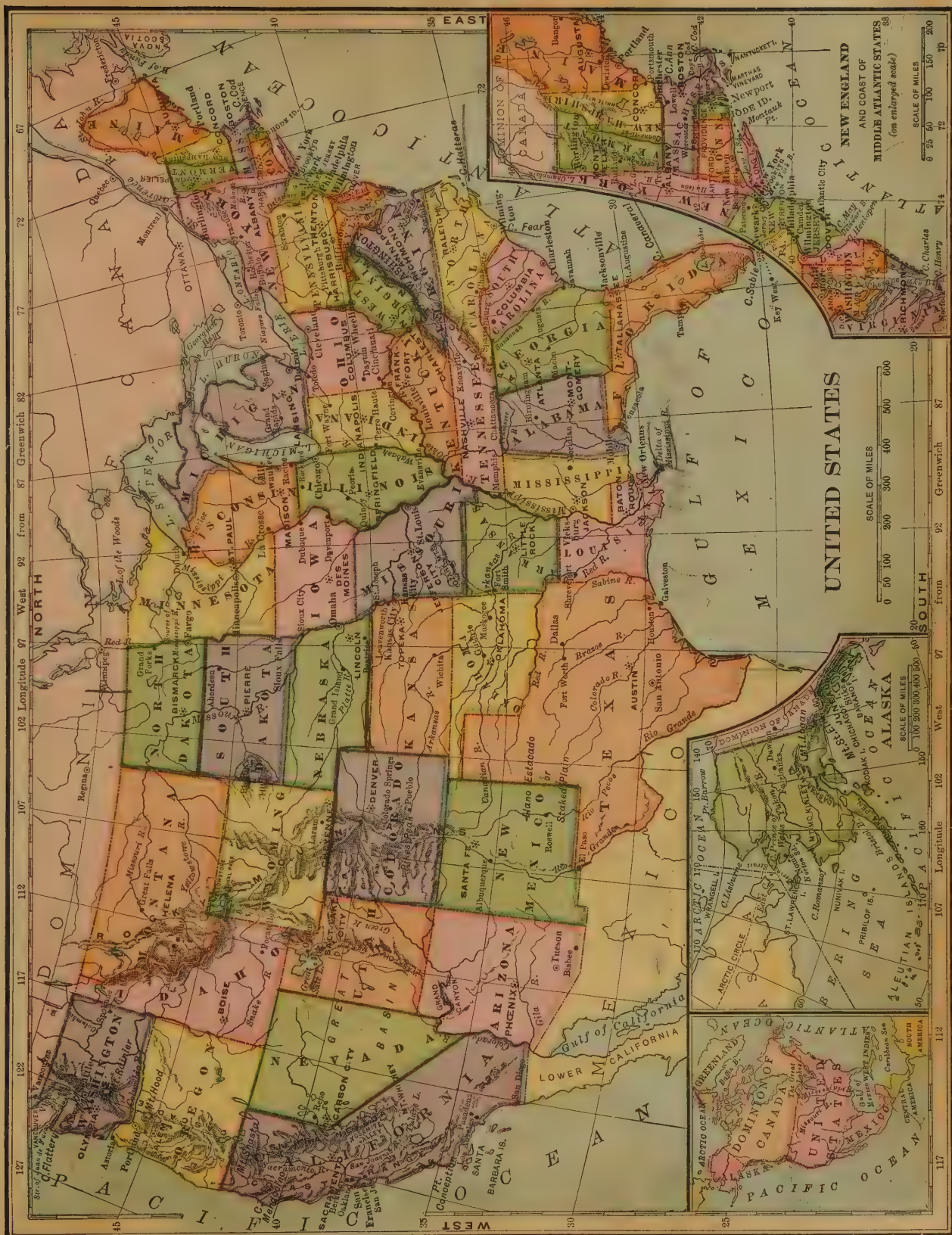
Name the states that border on the Pacific ocean.

Name the states wholly or partly in the Atlantic slope, as shown by their rivers.

Which of the states are wholly or partly in the Southern plain? See map on page 49.

Name some of the prairie states. Name some of the states wholly or partly in the Western plain. Which states are on the border between the prairies and Western plains?

Name the states wholly or partly in the Western highland.



44. How the country was settled

Long ago there were no white people in America, but many red men lived here. Then Columbus found the New World and white people came here to live.

Most of the settlers made their homes near the Atlantic coast, as it was nearest their old homes in Europe. The Eastern highland rose between them and the broad prairies. Savage red men also held the lands a little back from the coast.

After a time the people found that there were fertile prairies. Large bands then moved west.

Towns grew up along the lakes and rivers. Many of the towns were trading stations where the Indians sold furs for beads, knives, powder and other articles. Soon there were large boats on the lakes and rivers.

A little more than sixty years ago gold was found near the Pacific coast. Many people went there to work in the mines. Soon they found that the wheat and fruits they could raise were worth more than the gold.

Some of the gold hunters went on horses or in wagons across the wide Central plain and crossed the Western highland. Many were killed by Indians.

Others went in vessels all the way round South America. Still others went by way of the isthmus of Panama. They crossed that neck of land and then went up the coast in vessels.

Thus the west coast of our country was settled. Now people can cross the whole country in a few days in cars.

Gold and silver are now found in many parts of the Western highland, and people have built towns and cities near the mines.

The Southern plain was settled early, as its soil was very rich and its coast could be reached by ships from Europe.

A long time ago many black people from Africa were sold as slaves in the United States. They were owned both in the North and in the South of our country. Their work proved most helpful in the cotton fields of the South, where a large amount of cheap hand labor was needed.

After a long time all the slaves were set free. Most of them made their homes near the places where they had worked. There are many more white people than black people in the South.



The dots on this map show cities and towns. The largest cities are shown by the largest dots

There are many more Negroes than Indians in our country. Most of the red men are on lands set apart for them by the nation. Such lands are called "reservations."

The great state of Texas was once part of Mexico. It won its freedom and joined the United States. In the war for Texan independence a small but noted battle took place in a chapel in the city of San Antonio. You will read about it in your history.

Helps. — Find out all you can about Columbus.

Who lived in this country before the white people came? Where did the white men come from?

Why did the white people settle near the eastern coast? How did some of them go to the prairies? Why did they wish to go to the prairies?

Can you think why trading towns grew up along the lakes and rivers? What kind of boats did the Indians use? Where did the Indians get furs to sell? Why did the white people wish to buy furs?

Why did many people move to the Pacific coast? In what ways did they go? What did they find that was worth more than the gold in the mines?

Why have cities and towns grown up in the Western highland? Where are the towns built?

Why did white people go to the Southern plain? What gulf is south of this plain? What great river flows across it?

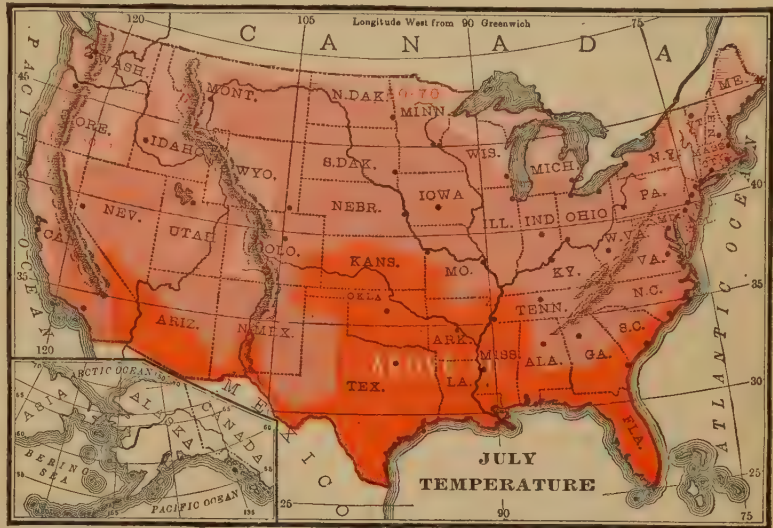
Where did the first Negroes of our country come from? Why are there so many in the South? To what race do most of the people of the South belong?

What is said about the Indians? For what is San Antonio noted?

The map on page 54 shows cities and towns. In what part are the dots largest and thickest?

Which has the greatest number of towns; the Western highland or the prairies round the Great Lakes? Which is the more thickly settled, the Pacific coast or the Atlantic coast?

The northern half of the country has four or five months of cold. Snow covers the ground in winter. Many of the rivers and small lakes freeze. The rest of the year is warm or hot.



The upper map shows which areas are warmest in summer. The useful plants are then growing.

The other map shows where most of the rain falls in summer. The eastern half of the country has plenty of rain. The Western plain and highland need more rain.

The most rain falls near the shore of the gulf of Mexico. This is the Southern plain.

Most of the people live where there is plenty of rain. Here are found the best farms. But even the dry lands have some grass for cattle and sheep.

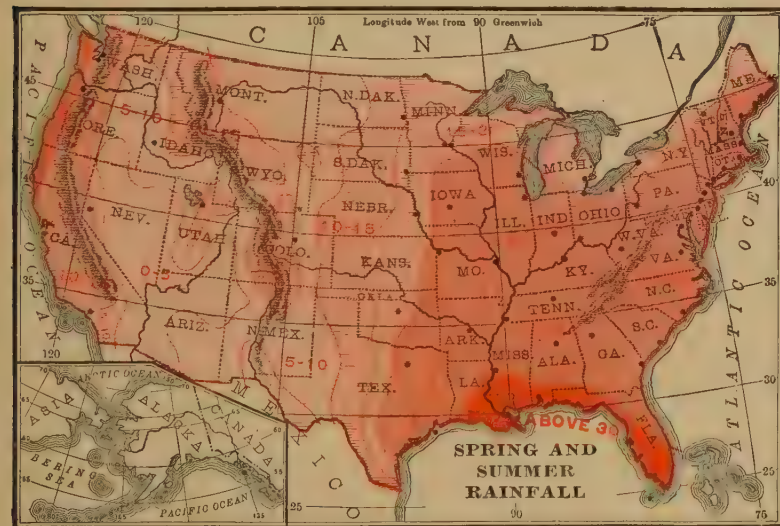
Helps. — What does the word "climate" mean? In what zone is the United States?

Tell about the summer and winter in the southern part of our country. Tell about

the seasons in the northern half. When do most of the useful plants grow in the colder half of our country?

Look at the little map showing July or summer heat, and tell which parts of the country have the hottest summers. Which parts have the coolest summers?

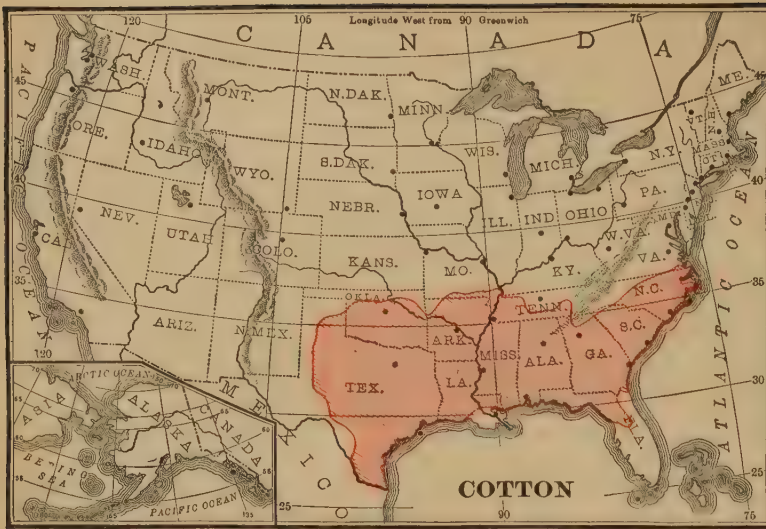
Which parts of the country have rain enough? Which parts have not? Where does the most rain fall in summer? See the red on the map.



45. Climate

By the word "climate" we mean the heat, rain and winds in any place.

The United States is in the temperate zone. The southern half has cool winters and hot summers.



46. Cotton

The cotton plant grows in warm countries. It needs plenty of rain. It cannot grow in cold or dry lands. The best cotton fields in the world are in the Southern plain.

Long white fibers grow on the cotton seeds and burst the pods as the seeds ripen. One picture shows the soft cotton in the pods of the plants.

Look at the picture of the cotton gin. The word "gin" is a short form of the word "engine." When the seed and fiber are picked they are put into the top of the gin. They fall on the wheel that has sawteeth. These teeth catch hold of the fibers and tear them from the seeds.

Another wheel brushes the fibers from the sawteeth. The seeds fall out on one side and the fibers on the other. The fibers are then pressed into large bales and are ready to be sold.

Some kinds of cloth are made of cotton. First the fibers are twisted into thread. This work is called spinning. Then the threads are ready to be woven into cloth. To weave is to cross threads so as to make cloth.

The seeds contain useful oil. They are put into strong presses and the oil is squeezed out. Some of this oil is used in making soap. Some of it is sold as olive oil, but true olive oil comes from the olive fruit. The part that is left after taking the oil from the seed is called oil cake. It is used to fatten cattle.



Cotton cloth is made in the states along the Atlantic coast and the gulf of Mexico. This country sends cotton to Europe.

New Orleans¹ is one of the leading cotton ports of the world. **Memphis**, on the Mississippi river above New Orleans, is also a large cotton market. **Galveston** ships cotton for the large state of Texas. **Savannah** and **Charleston** are great cotton ports. Much cotton is sent to **New York** for export.

Atlanta is a large inland cotton market.

Helps. — What does lesson 24 tell about cotton? What does the cotton plant need in order to grow best? Where are the best cotton lands?

Of what use is cotton? Tell how the fiber is torn from the seed. What is spinning? What is weaving?

What use is made of cotton seeds? Name two kinds of oil. From what is each made? What is oil cake? What is it used for?

In which part of the United States is cotton cloth made? What is done with the cotton we do not use?

¹ TO THE TEACHER. — The names of cities are put in dark type to catch the eye. Be sure that pupils locate each city by telling what state it is in and what coast, river, lake or range, if any, it is near.

47. Indian corn

The rich prairies are near the middle of the temperate zone. The hot and the cold seasons are of about equal length. In summer the fine soil of the prairies is warm and there is plenty of rain.

The prairies are the richest grain region on the earth. One of the leading grains is corn. It is raised also in all parts of the Southern plain and in every state along the Atlantic coast.

Corn is ground to meal and made into corn bread. Green corn or sweet corn is boiled on the cob and used as food. Much of it is cut from the cob and is then canned.

When corn is thickly sown ears do not form, but the stalks are rich and sweet. These are used as fodder or food for cattle.

Corn is fed to hogs to make them grow fat. Most of the cattle and hogs are in the corn belt.

Frost kills growing corn. Cold nights hinder its growth. For these reasons it does not grow so far north as some of the hardier grains. A hardy plant is one that can bear the cold or a drouth.

When the white men came to America they found that the Indians had fields of corn. This useful grain was then taken to Europe. Now it grows in nearly all lands having long and hot summers with plenty of rain.

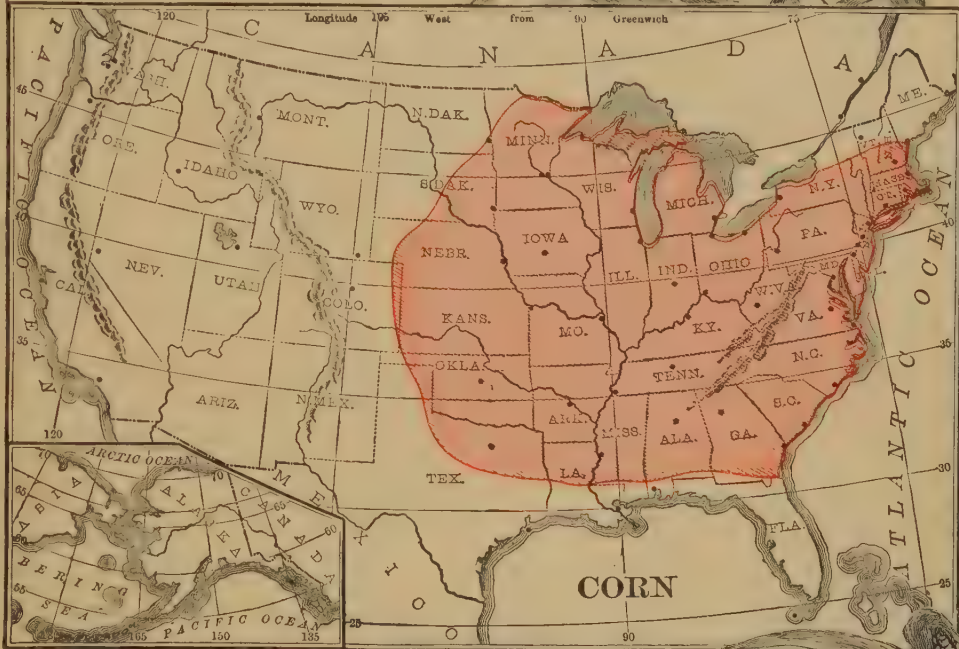
Much of the corn is sent to Europe. Part of it goes to the seaports in cars. A large part goes east in steamers on the Great Lakes. Then it is placed in cars or in canal boats and sent to the coast. Large ships then take it to Europe.

The city of **Chicago** receives and ships the most corn. This city is beside lake Michigan. Most of the large lake ports ship corn.

Helps.—In what zone are the prairies? What four seasons have this zone? What is said of the soil and rain in the prairies? Where are the best grain lands on earth?  Where is corn raised?

What use do
fodder corn?

Where are the best grain
Where is corn raised?
we make of corn? What is



Why are many cattle and hogs found where the most corn is raised? What is fodder corn? How do farmers sow corn so that it will have sweet stalks but no ears?

What is a hardy plant? Why does not corn grow as far north as some other grains?

When did the white people of Europe first use corn?
In what parts of the world does corn now grow?

What is done with the corn we do not need? How does it reach the coast? What is then done with it?

What is said about Chicago? Where is this great city?
What does lesson 42 tell about it?

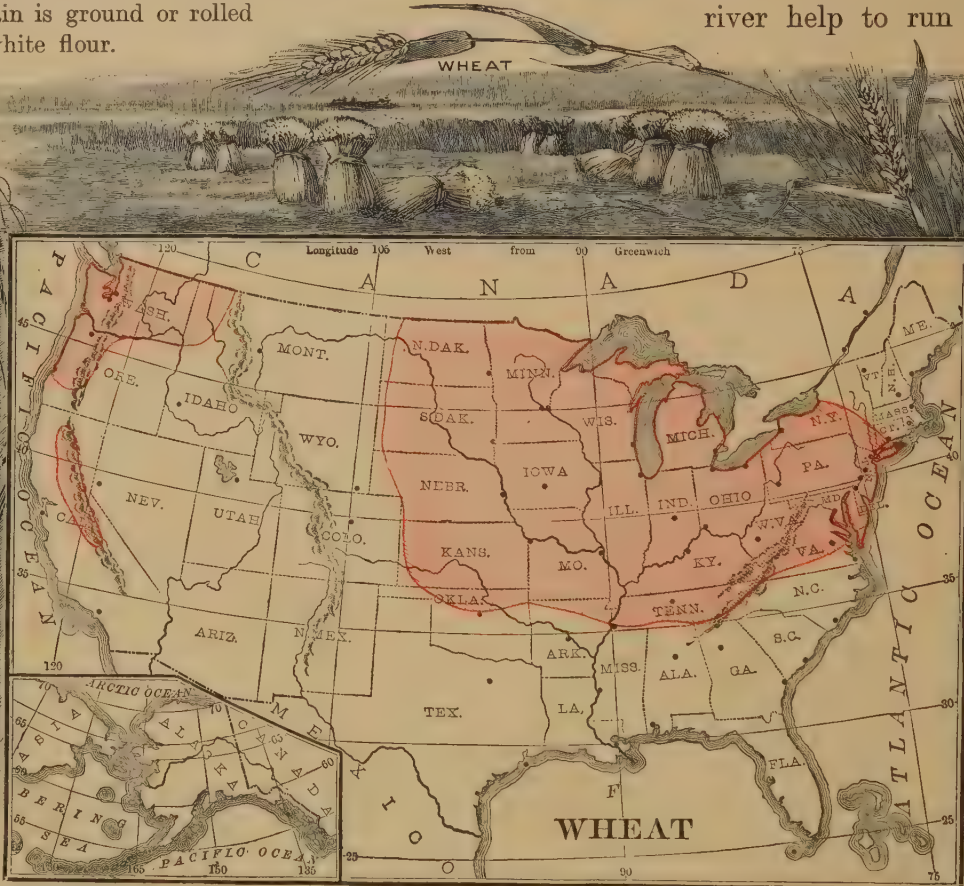
48. Wheat

Wheat is the most useful grain to the people of our country. Flour and breakfast foods are made from it.

The little wheat seeds consist of tiny grains inside of husks. First the husks are taken off, and then the outer part of the grains. Only the inner part of each grain is ground or rolled into fine white flour.

A large part of the wheat crop passes through Chicago. Much of it is sent to Europe. New York and Baltimore ship both corn and wheat to Europe.

The city of Minneapolis leads the world in making flour. This city is near the wheat fields. Great falls in the Mississippi river help to run its



Wheat grows well in the prairies. It stands cold nights and frost much better than corn and so is raised farther north. Some of the best wheat lands are in Canada.

The prairies in Texas are good wheat land. Dallas has large flour mills.

The valleys near the Pacific coast yield large crops of wheat. San Francisco and Portland ship wheat by way of the Pacific ocean.

We do not know where wheat was first found. It was brought here from Europe. Our country now produces about one fourth of all the wheat in the world.

mills. It can get plenty of hard wood for making flour barrels. St. Louis is also a leading flour city.

Helps. — Which is the most useful grain to us? For what is it used? What part is used to make white flour?

In which parts of our country does wheat grow? Why will it grow farther north than corn? Where is Dallas?

How much wheat does our country produce? Name a lake port that handles wheat; two eastern seaports; two ports on the Pacific coast.

Name two cities that make flour. What are some of the reasons for making flour in Minneapolis?

49. Forests

Many trees grow round the Great Lakes and east of them, all the way to the ocean. Some of these trees are in the soft-wood or pine family. Others are hard-wood trees.

Mobile is a lumber port. This is one of the gulf cities that have large sawmills.

There are forests near the Pacific coast. Some of the largest sawmills in the world are built there. Most of the trees are soft wood.

The fir is one of the most useful. Seattle and Tacoma are great lumber markets for the Pacific coast.

The Western plains and the dry parts of the Western highland have few trees.

We must not think that corn, wheat and forests grow in all places tinted red on the maps. Among the forests and fields of grain are millions of acres of grass and other plants.

Helps. — Can you name something that is made of pine?—of oak?—of maple? Can you name two kinds of trees that are used in building houses?

Name some trees that give us food. Name some used for fuel. What are the

best shade trees near your home?

Name some hard-wood trees. Name some soft-wood trees. Which parts of our country have large soft-wood forests? In what family are these soft-wood trees?

Tell how the soft-wood trees are cut and taken to the

One of the pictures shows a camp in a forest. The ground is white with snow. This camp is in a soft-wood forest. The snow shows that it is in the cold part of the country.

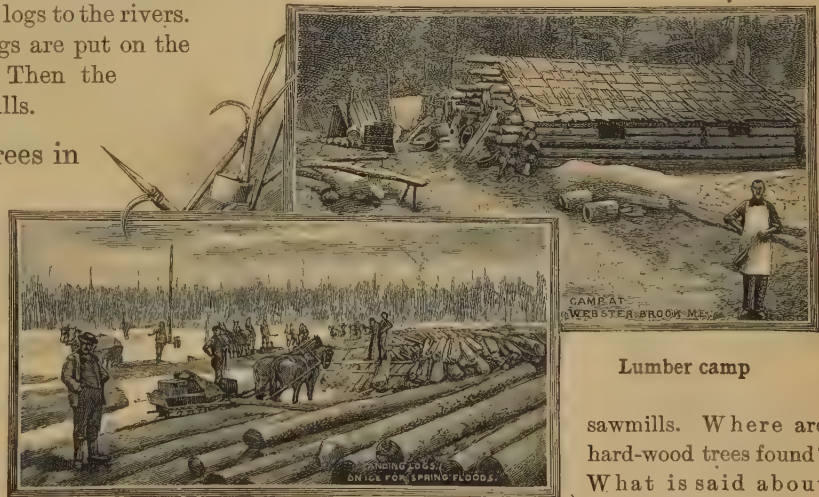
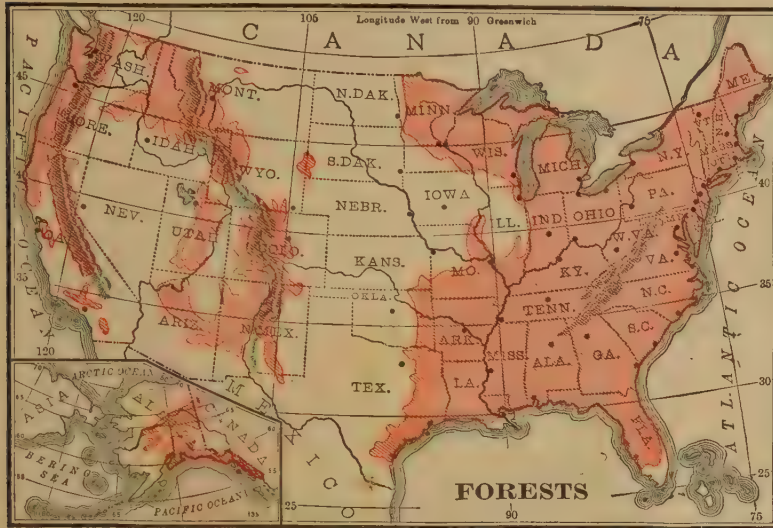
All winter the men cut down trees and saw them into logs. Horses, oxen or engines drag the logs to the rivers.

When the rivers are frozen the logs are put on the ice. In the spring the ice melts. Then the logs float down the rivers to sawmills.

There are many hard-wood trees in the eastern half of the country. These include such trees as oak and maple.

Millions of trees have been set out and grow well in the prairie soil. Many of the prairie homes are in groves of shade trees. But there were not many trees in the prairies, except near the rivers, before the white men settled there.

The Southern plain has large forests of long-leaf pine. It makes fine lumber. The sap is used in making rosin and turpentine. Savannah ships more rosin than any other port in the world.



Logs ready to float down to a sawmill

Lumber camp

sawmills. Where are hard-wood trees found? What is said about trees in the prairies?

Where do forests of long-leaf pine grow? Name some of the uses of these trees. What is said about Savannah?—Mobile?—Seattle?—Tacoma?

What is said of the forests near the Pacific coast? Name two parts of the United States that have few trees.

50. Animals

The color on the map shows where the most cattle are found. Some cattle are raised in every state. Most of them are in the prairies and Western plains.

Only a small part of the Western plains has water enough for wheat and corn. But grass grows with only a little rain. Thus the lands that are not good for grain may support many cattle.

The prairies have plenty of rain. Grass and fodder corn grow quickly. The prairies are the best cattle lands in the world.

In the South many cattle grow fat



Many horses work on farms in all parts of the country. Most of them are on the prairies, where there is the most farm work to do.

Millions of sheep are raised in the prairies and all over the Western highland.

Sheep supply meat as well as skins and wool. The meat of old sheep is mutton. The meat of young sheep is lamb.

Wool is made into cloth. It is spun and woven like cotton. Much more cloth is made of cotton than of wool. The states in the northeastern part of our country make woollen cloth and yarn.

by feeding on oil cake. This cake is what is left after pressing most of the oil from cotton seed.

Cattle are the most useful animals in this country. Some work like horses. Others are killed for meat or beef. The skins or hides are made into leather.

Cows are kept for their milk. Milk and butter and cheese are dairy products.

Boston is the largest boot and shoe market in the world.

Boston is not far from great woolen mills and is a noted wool market. Philadelphia leads the world in woolen carpets.



Scene on a cattle ranch

Corn is the best food to fatten hogs. The corn lands are in the eastern half of the country. Most of the hogs are raised there.

The meat of hogs is pork. The thick parts of the legs are salted or smoked to make hams. Part of the fat of hogs is made into lard.

This country sends meat to Europe. New York exports the most. Chicago and Kansas City are the largest meat markets in the world. Omaha is another large cattle market. Cincinnati is a center for pork packing.



Why are the prairies good lands for cattle? How are many cattle in the South fattened for market? What are some of the uses of cattle? Of what are your shoes made? What is leather? Name a leather market.

Name some dairy products. How is butter made? Try to find out how cheese is made.

Where are the most sheep raised? What do sheep feed on? Of what use are sheep? What is mutton? What is lamb? Of what use is wool? Where are woolen cloth and yarn made? Name a great wool market. What is said about carpets?

Where are most of the hogs raised? What is pork?—ham?—lard?

Where does our country send meat? Name four cities that prepare meats for market.



The girl's shawl is made of wool

Millions of deer and bison used to feed on the prairies. Indians made their homes there and hunted the wild animals. There were few trees, but there was plenty of grass.

Many years have passed. Most of the deer and bison have been killed. Farms now cover the rich prairies. Wheat and corn grow where the wild grass waved.

Helps.—Name some of the useful animals near your home. Of what use are they?

Where are the most cattle raised? Why are some lands good for cattle but not for raising grain?



7 51. Coal and oil

Coal is dug out of the ground. It is burned to warm houses and to make steam in engines.

Coal is found in layers of rocks. It is made of plants that grew long ages ago. In some places the coal is near the surface. In other places deep mines are dug to reach it.

Most of the coal plants were large ferns and mosses. They grew in very wet lands or swamps.

For many years the plants grew and died in the water. They made beds of dead plants. At times rivers buried these beds under mud or sand.

Then perhaps more plants grew on the mud. As they died they made another bed of plants. More mud or sand came down the rivers and buried them.

After long ages the clay and sand turned to stone. The beds of plants slowly grew hard and made coal.

Some of the beds of rock and coal have been bent and lifted to form hills and mountains. Many coal mines are in the ranges of the Eastern highland.

The ranges of the Western highland also have great beds of coal. The mines near the large cities can sell coal cheapest. Why?

Some of the best coal mines are deep down under the prairies. Soft coal comes from them.

Some coal beds are only a few inches thick. Others



Coal ferns

This building is a coal breaker. The coal is sorted to sizes and loaded on cars. The boys above are picking slate out of the coal as it runs down the chutes

are many feet thick. The forms of ferns and mosses are still seen in coal. This picture shows some of the old ferns that made coal.

In some places the buried plants have made oil and gas. They fill the little holes in rocks. Pipes are sunk into the rocks to reach them. This oil is petroleum. The word means *rock oil*. Kerosene and vaseline are made from it.

From some of the pipes the oil must be pumped. From others it flows without pumping.

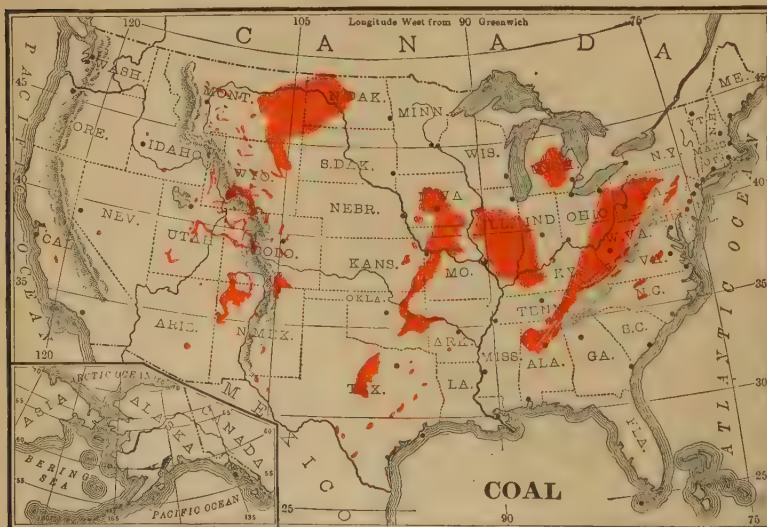
The gas and oil are used for fuel and light. Pittsburgh is in the gas and oil district. Cleveland has great works for refining oil.

Helps. — Where does coal come from? Of what use is it?

Tell all you can about how coal is formed.

If coal was formed in low wet places, how can we now find coal in mountains? What two highlands have many coal mines? What other part of our country has good coal mines?

What else have buried plants made in the ground? How do men get the oil and gas from the ground? Of what use is the gas? What is made from petroleum? What does this word mean?





52. Useful metals

Iron, gold, silver, copper, lead and the like are *metals*. They are found in rocks. A rock from which a metal is taken is called an *ore*. Iron comes from iron ore.

Iron is the most useful of all metals. Steel is a very hard form of iron.

The richest iron mines in the world are near lake Superior. There are also rich iron mines in many parts of the Eastern highland. The United States makes more iron articles than any other country.

Pittsburgh is the greatest center of iron manufacture in the country.

Philadelphia takes high rank in making iron ships and engines.

Birmingham is the iron city of the South.

With so much iron near lake Superior, and with plenty

of coal within easy reach, all the large lake ports have built great iron mills. **Chicago** ranks next to **Pittsburgh**. **Detroit** leads in making stoves. **Cleveland** builds iron ships.

Coal is used in melting iron from rocks. Many of the coal and iron mines are near each other.

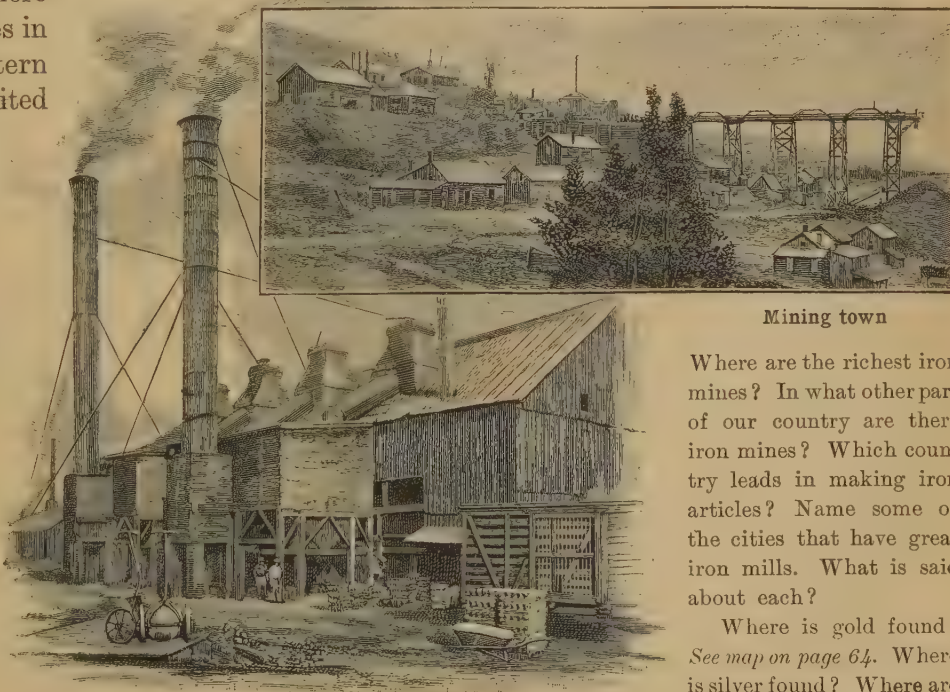
Gold and silver are found in the Western highland. The Rocky mountains are very rich in both. **Denver** sells supplies to miners.

The southern end of the Eastern highland yields some gold. Alaska also has rich gold mines.

This country has the richest copper mines in the world. The best mines are in the Rocky mountains, at **Butte**, and near lake Superior. One of the chief uses of copper is to make telephone and telegraph wires.

Helps.—What iron goods have you seen in stores? Name some of the uses of iron on railroads. What are some of the uses of gold? Name some articles made of silver.

What is an ore? Where does iron ore come from? What is steel?



Mining town

Where are the richest iron mines? In what other part of our country are there iron mines? Which country leads in making iron articles? Name some of the cities that have great iron mills. What is said about each?

Where is gold found? See map on page 64. Where is silver found? Where are the richest copper mines?

A smelter



53. Other products

Every state raises fruits. Apples and pears grow in nearly all parts of the country. Peaches and grapes also are widely grown. Oranges grow in some of the warmer parts. **Los Angeles** and **Jacksonville** ship oranges.

The common vegetables also grow in all the states. Sweet potatoes grow in the warmer half of the country.

Some states raise early fruits and vegetables for market. This work is market or truck gardening. Early products bring a high price. The large cities buy most of them.

The states of the South send early fruits and vegetables north.

Tobacco is a leading crop in some states. **Louisville** is the greatest tobacco market in the world. **Richmond** and **St. Louis** also take high rank for tobacco goods.

Rice is one of the most useful grains. It grows in wet lands in the South. The largest rice fields are in the low land of the delta of the Mississippi river. South Carolina also is noted for rice. **New Orleans** and **Savannah** are rice markets.

Part of our food is taken from the sea. Oysters are found on the

bottoms of many bays on the Atlantic coast. Most of them come from Chesapeake bay. The city of **Baltimore** is near this bay and handles more oysters than any other city in the world.

Many mackerel are caught along the same coast. Codfish and haddock abound on the banks or shoal places near the northeastern shore of the continent.

Salmon are caught in rivers and bays, chiefly in Oregon, Washington and Alaska. The Great Lakes supply many food fish.

Good stone for building houses is found in most states. Granite and marble are very hard building stones. Limestone and sandstone are more easily cut into shape.

Helps. — Name some of the fruits that grow near your home. Do you know where the oranges you eat come from?

Name ten vegetables. What is truck gardening? Why can the South ship early fruits and vegetables?

Name three grains. Where does rice grow? Where are the largest rice fields? Name two rice markets.

Where do oysters grow? What bay is noted for oysters? Where is Baltimore? What is said about it? Name some salt-water fish. Where are salmon caught?

What kinds of building stone have you seen? What does the text say about building stone?



Picking oranges

54. Routes of trade

Lakes, rivers, railroads and oceans are the chief highways of trade. Much has been done to improve them. Rocks have been taken out of rivers and harbors, and sand bars have been dug or dredged away. Lighthouses have been built to guide ships on their way. Canals have been made round the rapids and the falls, as well as from river to river, from lake to lake or river, and sea to sea.



STEAMSHIP

It is far cheaper to carry goods by water than by land. On the sea there are no costly roads nor tracks to build and keep in repair.

A deep river flowing past a city helps to keep freight charges low. If the railroads try to charge high prices, the freight can be sent by boat. This is a slower but cheaper way.

Every producing region needs one or more shipping points. These become centers of trade. They should be within easy reach of all parts of the region, and should connect by rail, water or other route with the markets.

Railroads cross the United States by half a dozen routes from ocean to ocean. They run along the coasts. They wind along the great rivers. They cross great plateaus.

Years ago the rivers were the chief highways of inland trade, but now railroads have taken first place. To-day cities and towns are dotted along the lines where freight trains gather up the products of farm, forest, mine and workshop.

Among the great inland railroad centers are Chicago, Kansas City, St. Louis, Indianapolis, Buffalo, Albany, Pittsburgh, Minneapolis, St. Paul, Atlanta and Denver. But nearly all the large cities are railroad centers. Of course many railroads run to the ports.

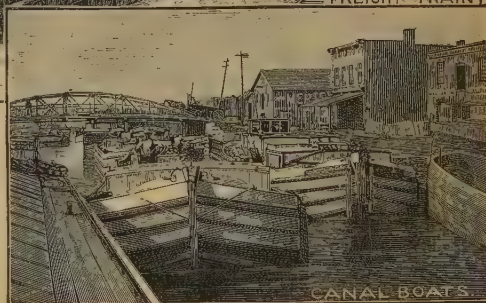
Canals are very useful in carrying slow freight that will not decay or spoil. Lumber and coal are often seen in boats on canals.

The Erie canal (*see lesson 42*) is the most noted in this country. Before it was dug Boston was the chief seaport. The canal turned trade down the Hudson river, and New York has



FREIGHT TRAIN

since grown to be the second largest city in



CANAL BOATS

the world. Only London, in England, is larger. New York contains nearly 5,000,000 people.

Helps. — Name three highways of trade. Tell how some of them have been made better. Which is the cheaper, freight by land or by water? Why?

How can lakes and rivers help to keep railroad rates lower? Where should centers of trade be built? Why do towns grow up near railroads and rivers?

Name and locate some of the inland railroad centers of our country. Why do railroads run to large ports? Name some of the large seaports you have read about.

What kind of freight cannot be carried far on canals?

55. Alaska

Alaska belongs to the United States. This land is in the far north. Part of it is in the frigid zone. The winters are very long and cold. The southern coast is the warmest part.



Inside an Eskimo hut. What toy does the boy wish?

The river Yukon flows southwest across Alaska. This is a very large river. High mountains rise along the south coast. Alaska has forests, but is too cold for grains.

Many seals are killed on islands in Bering sea. Furs are made from their skins. The waters of Alaska have many fish.

Gold is found in the Yukon valley and near the south coast. The famous Klondike gold region is east of Alaska, in Canada.

Juneau, the capital, is near the southeast coast. Sitka is on one of the southeast islands.

The first settlers in Alaska were Indians and Eskimos. Then white men went there for fish and furs. After a time gold was found. Many white people then went north to the

mines. Now there are about as many white people as Indians and Eskimos. The number of white people is growing, but is not yet very large.

Helps. — Where is Alaska? To what country does it belong? Where is Bering sea? What strait separates Alaska from Asia? Where are the Aleutian islands?

In what two zones is Alaska? Which is the warmest part? What great river flows across Alaska? In which part are there high mountains?

Name some products of Alaska. In which parts of Alaska is gold found? Name two towns in Alaska. Which is the capital? What is said about the people in this cold land?

after Knas 56. Hawaii

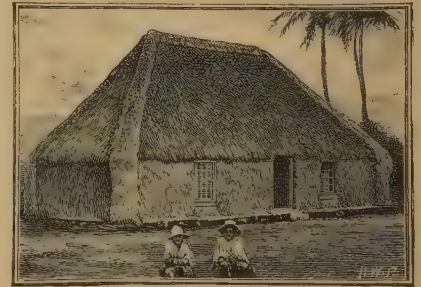
Hawaii is the name of a group of islands. They are far out in the Pacific ocean, in the torrid zone. Hawaii is also the name of the largest island in the group.

The islands of Hawaii belong to the United States.

These islands have no cold winter, but some parts of the year are cooler than others. There is plenty of rain, and most

of the year the tropical air is warm or hot.

The islands of Hawaii were made by volcanoes. They rise out of a very deep part of the ocean. Some of the volcanoes are active and send out hot lava, steam and mud.



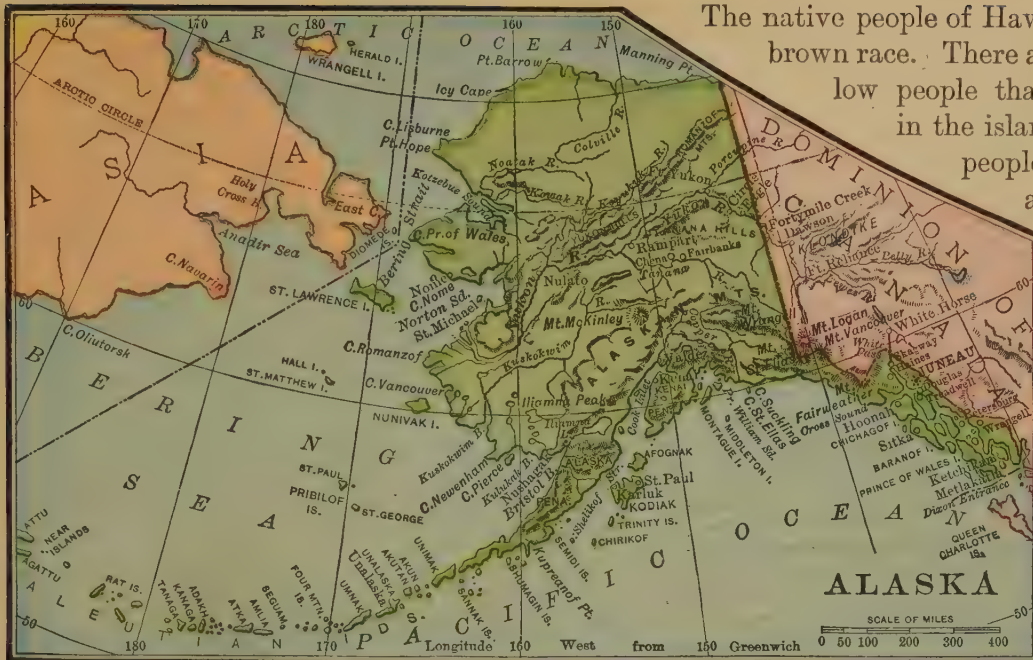
Native hut in Hawaii

Most of the surface of the islands is rough. There are many peaks and old beds of lava. But there are also wide valleys with very rich soil.

Sugar, rice and coffee are leading products in these islands. There are bananas, oranges and other fruits.



Native girls of Hawaii



The native people of Hawaii belong to the brown race. There are now more yellow people than brown people in the islands. The yellow people are from Japan and China. The number of white people is not large.

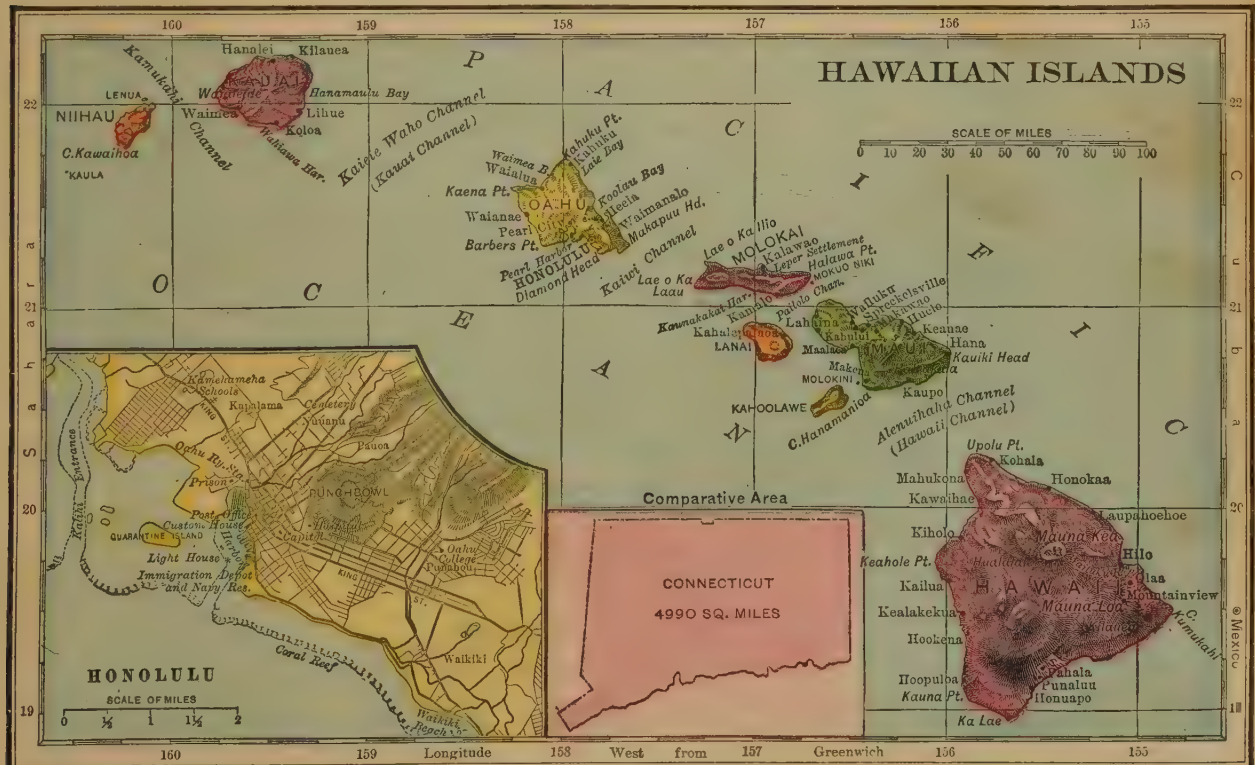


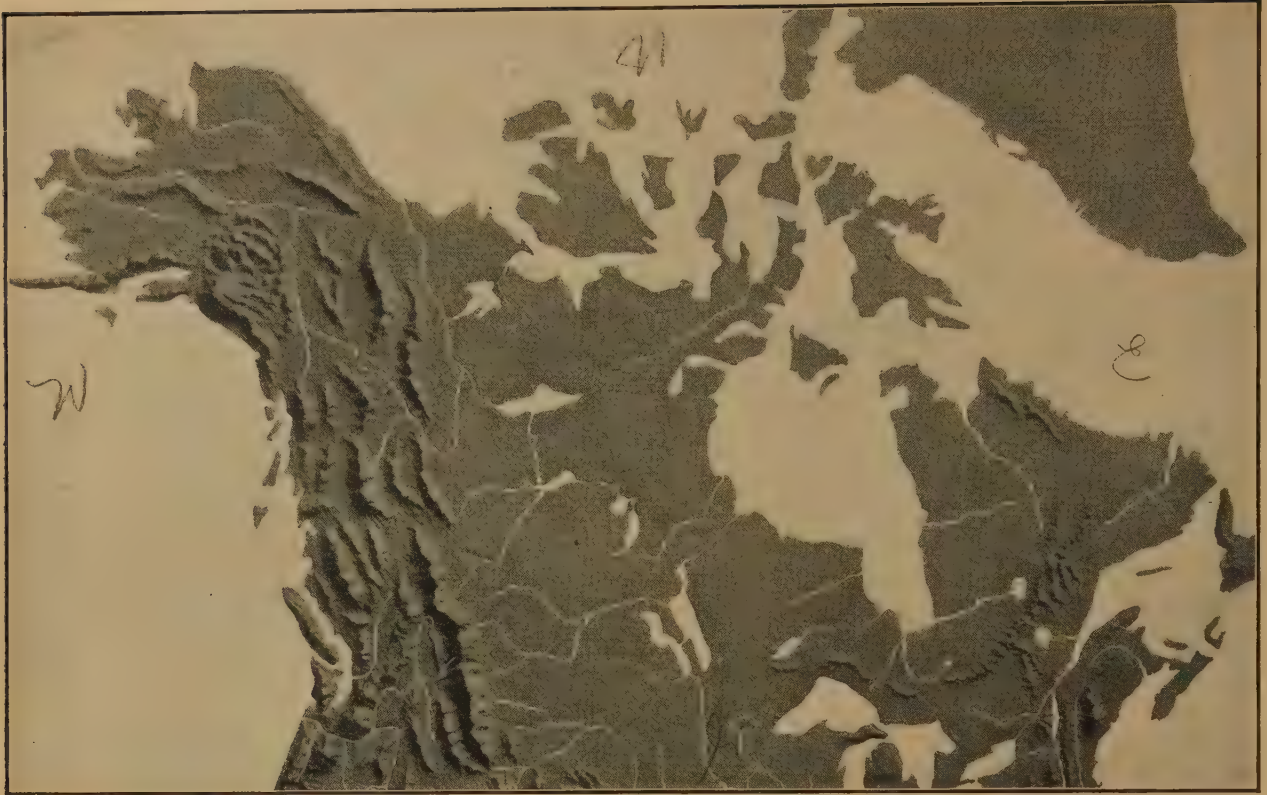
Honolulu is the chief city. It is on a deep harbor. This city has good schools. Steamers carry sugar and other products from Honolulu to San Francisco. Where is this seaport?

Helps. — Where is Hawaii? In what zone? To what country do these islands belong?

How were these islands made? What is said about the soil?

Name the chief products of Hawaii. What is said about Honolulu? Tell what you can about the people.





Relief map of Canada and the northern part of the United States

fill CANADA, MEXICO, WEST INDIES *P-a*

57. Canada

Map studies. — Name the oceans around Canada. What country is south of it? Where is Baffin bay? — Hudson strait?

What large bay enters the north coast? Name a gulf on the east. Name a large river flowing into this gulf.

Where is lake Winnipeg? Name a large river flowing into it. Locate Great Slave lake and Great Bear lake.

What does the relief map above show about the surface and coast of Canada? Into what ocean does the Mackenzie river flow? A group of islands is an archipelago; the cold islands north of Canada are often called the *Arctic archipelago*.

Canada is almost as large as the United States. Their surfaces are alike in many ways. The Western highland and Central plain extend across both. Each has a low Eastern highland and Atlantic slope.

The two countries differ in many ways. Canada is in the cold half of the temperate

zone. The United States is in the warm half of the same zone. The rivers of the Central plain of Canada flow into cold seas of the far north. The Mississippi river, wide and deep, flows to the warm gulf of Mexico.



Steamer going down rapids in the St. Lawrence river



Most of the coast of Canada is cold and barren. The United States has many ports.

A large part of the Central plain in our country is fertile. A smaller part of the plain in Canada is rich wheat land. The rest is too cold for grain.

Both countries have gold mines in the Western highland. Both have iron mines near lake Superior. Both raise many cattle. Both have large forests round the Great Lakes. The sea near both yields many food fish.

Nearly all the useful products of Canada come from the southern part.

The largest cities of Canada are on the St. Lawrence river and the Great Lakes.

Montreal is on the St. Lawrence. This is the largest port in Canada. Farther down the river is the port of **Quebec**. Steamers from the ocean can go a thousand miles up the St. Lawrence river to Montreal. **Ottawa** is the capital.

Halifax, in the province of Nova Scotia, is a port of Canada. Nova Scotia is a large peninsula. **Vancouver** and **Victoria**, in British Columbia, are the chief ports on the west coast. The latter is on Vancouver island.

The island of Newfoundland is not a part of Canada, but both belong to Great Britain.

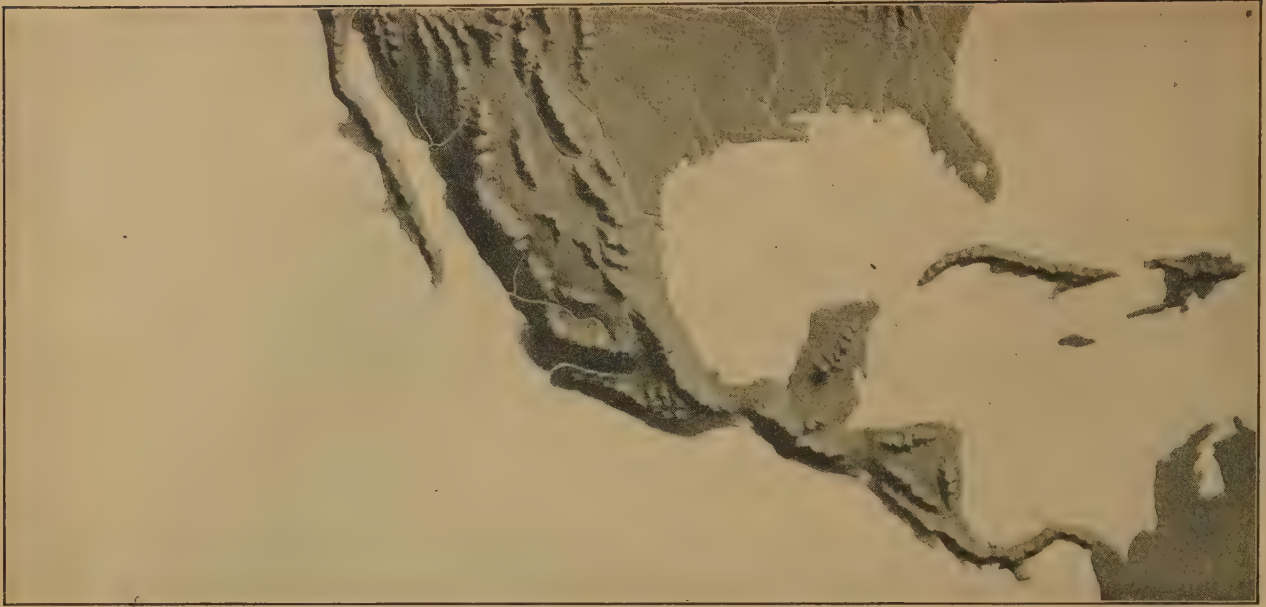
Helps.—Tell in what ways Canada and the United States are alike. In what ways do they differ?

Which of these two countries has the colder seasons? Which part of Canada is very cold? What is said about the coasts of the two countries? Name some of the products of Canada. From which part of Canada do nearly all the products come?

In what part of Canada are the largest cities? Name two ports on the St. Lawrence river.

What is the capital of Canada? In many ways a province is like a state. In what province is Halifax? Name a province and city of Canada on the west coast. Where is Vancouver island?

Where is the island of Newfoundland? To what country in Europe do Canada and Newfoundland belong?



Relief map of Mexico and the southern part of the United States

58. Mexico and Central America

Mexico is south of our country. It is mostly in the Western highland. A large part of it is a high plateau. There are low plains along the coasts, but they are very narrow.

Part of Mexico is in the torrid zone. The other part is in the temperate zone. The summers on the plateau are not very hot. The winters are cool but not cold. The lowlands are hot and damp.

On the plateau there is good farming and grazing land. The people raise coffee, cotton, sugar cane and tobacco. Many cattle feed on the grass lands.

Mexico has rich mines of silver.

Millions of Indians and white people live in Mexico.

Many of the Indians till the soil, tend cattle, work in mines, live in good houses and go to school, just as the white people there do. Most of the people live on the plateau.

The city of **Mexico** is the capital of the country. Railroads connect it with cities in the United States. The city of Mexico is in a beautiful valley, nearly a mile and a half



One of the poorer families of Mexico and their outdoor oven

6. child

the a winter



above the level of the sea. Not far away may be seen high volcanoes.

Vera Cruz is the chief port of Mexico. It is on the coast of the gulf of Mexico.

Southeast of Mexico there are several small countries known as the republics of Central America. They lie between the Caribbean sea and the Pacific ocean. There are six of them, as follows: Guatemala, Honduras, Salvador, Nicaragua, Costa Rica and Panama.

These countries are in the torrid zone. They have about the same kinds of products as Mexico. Most of the people are Indians, but there are some white people. The white people here and in Mexico are of Spanish descent.

The isthmus of Panama is in the little republic of Panama. This isthmus is the narrowest neck of land between North and South America. The United States owns a belt of land across the isthmus and has made a canal in which ships now pass from ocean to ocean. There is a railroad across the isthmus.

Ships first began to use the canal in 1914. Our country has paid many million dollars for the work. But the canal will be useful to all countries whose ships carry the freight of the world. It will save much time for ships that carry goods and passengers between Atlantic and Pacific ports.

Helps. — What country is north of Mexico? What ocean is west of it? What gulf is on the east? — on the west? Between what bodies of water is the peninsula of Lower California?

What does the relief map on page 70 show about the surface of Mexico?

In what zones is Mexico? What is said of the seasons on the plateau? Name some products of Mexico.

To what two races do nearly all the people of Mexico belong? What is said of the Indians? Where do most of the people of this country live?

Tell what you can about the city of Mexico. Name a port of Mexico.

Where is Central America? How many republics are there in Central America? In what zone are they? What is said of their products? — of their people? Where is the Caribbean sea?

Where is the isthmus of Panama? What is said about it? Of what use will the Panama canal be? How must ships now go from New York to San Francisco?

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59. West Indies

West Indies is the name of the group of islands southeast of the United States. Nearly all the islands are in the torrid zone. Summer is the rainy season.

The largest of these islands is Cuba. It is the youngest republic in all America.



Morro Castle; entrance to Havana harbor

Cuba is long and narrow. It is shaped like an alligator, with the head to the east. This island has mountains along its southeast coast. There are also high hills in many parts of the island, but there are also large fertile plains.

Cuba is in the torrid zone. It has hot weather most of the year, but it has a few cool months. The island has plenty of rainfall. Most of it falls in the hottest months.

Cuba produces more sugar cane than any other country. Its tobacco is also the best.

Columbus discovered the island of Cuba and called it the fairest isle man ever saw. It is almost one great beautiful garden. There are wide fields of sugar cane. There are great meadows of tobacco. Many trees and plants yield sweet fruits, such as oranges, cocoanuts, bananas and pineapples. Millions of palms grow everywhere. The cattle are almost hidden in the grass on which they feed. Forests of valuable wood, such as mahogany and cedar, abound in the hilly district.

Most of the people of Cuba are white, but there are also many Negroes. The Cubans

have good schools in every town of the island.

Havana is the capital and largest city. It is also the chief port. The city is noted for its tobacco and cigars. It is a great sugar market.

Haiti is the island next in size. It contains the two small countries of **SANTO DOMINGO** and **HAITI**. The western half of the island is settled chiefly by Negroes. The eastern half is settled by white people and Negroes.

Porto Rico is still farther east. It belongs to the United States. This island is hilly, but has many fertile valleys. The chief products are sugar in the

valleys and coffee in the highlands.

Most of the people of Porto Rico are white, but there are many Negroes. The white people here, as in Cuba, are of Spanish descent. **San Juan** is the chief city and the capital.

Helps. — Where are the West Indies? In what zone are most of the islands? When is the rainy season?



Cutting sugar cane in Porto Rico

Name the largest island of the West Indies. What is its shape? Tell what you can about its surface. In what products does it take the lead? Name some of the fruits of Cuba. What is said about the grass? Name two useful trees of Cuba. What is said about the people of Cuba? Tell what you can about Havana.

Where is Haiti? What is said about it?

What large island lies east of Haiti? To what country does Porto Rico belong? Name two products of this island.

What people live in Porto Rico? What is its chief city?



60. Why cities grow

Inland cities. First let us see what raw material there is for one class of cities to handle or to use. We will take the prairie cities. They have the corn and wheat; the beef, pork and mutton; the hides, skins and wool; the hard wood and the soft wood; the iron and copper that is brought down from the lake Superior region; the soft coal under the prairies.

Next let us see what the people of the prairie region need. They must have great mills for making flour; barrels in which to ship the flour; packing houses for dressing and curing meats; engines, cars and rails for freighting products; iron or wooden ships for the lake trade; steamboats for river traffic; lumber for their houses; wagons and all sorts of farm tools; tables, chairs and other kinds of furniture; clothing, books and all the articles that give comfort in the home.

But the people use only a small part of the raw material at home. They ship away grain, meats, lumber, iron, copper and many other things.

Now tell all you can about the kinds of work people must do to produce all this raw material, prepare it for market and ship it away. Make a long list of the occupations of the people on the farms, and also in the cities.

Here are some of the great cities that handle prairie products. Locate them by states, and also by lakes or rivers: **Chicago, St. Louis, Cleveland, Cincinnati, Detroit, Milwaukee, Minneapolis, St. Paul, Duluth, Indianapolis, Kansas City, Toledo, Columbus, St. Joseph, Omaha, Buffalo.**

This list names some of the cities that have grown far inland. Other great cities have been built in the Southern plain, where they must handle cotton, sugar cane, rice, lumber, rosin and many other things. Still others owe their growth to mines, to cattle ranches or to swift rivers that help to run cloth mills.

Seaports. Next let us look at great seaports that trade with foreign lands. **New York** is a good example.

New York has a large and deep harbor. Long ago this harbor was made an outlet for much of the trade of the rich districts round the Great Lakes.

A long canal was dug from **Buffalo**, on lake Erie, to connect with the Hudson river. Boats could thus reach New York harbor. Later long railroads were built from this harbor to the prairies and to nearly all other parts of our country. New York then grew to be the second city in size in the world.

On the wharves or docks of New York may be seen products from nearly every part of the country, even from far-off California, ready to be placed on ships going to Europe or other lands. And there are also goods from other countries ready to be sent all over the United States.

A city to which so many kinds of products are sent is a good place for mills and workshops. New York has grown to be the leading center of manufacture in the New World.

This country has many other seaports, but none so large as New York. Here is a list of the largest. Locate them by states and also by telling what river, bay or ocean each is near: **Philadelphia, Boston, Baltimore, San Francisco, New Orleans, Jersey City, Providence, Norfolk, Charleston, Savannah, Mobile, Galveston.**

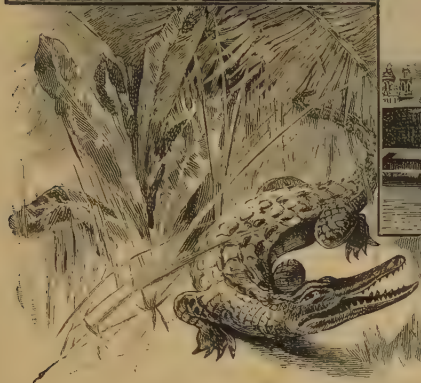
Try to recall something you have learned about some of these cities.

Helps.—What is a seaport?—an inland city?

Tell all you can about the products of the states in the prairies and around the Great Lakes. Can you think of some things the people of the prairies need but do not raise?

Give as many reasons as you can for the growth of the great inland city of Chicago.

Give some reasons why a great seaport should grow up by New York bay. Name some of the things that ships carry away from New York. What kinds of goods do ships bring from foreign lands to this country?



SOUTH AMERICA

61. Surface of South America

The isthmus of Panama joins the two continents of America. They are alike in many ways. Both have great highlands in the west. Wide plains lie east of these highlands. Still farther east are smaller highlands. Both continents have the shape of the letter V. Both have the same oceans on the east and the west. The longest rivers in each flow into the Atlantic ocean or its arms.

The Andes highland rises along the

Pacific coast. It is higher than the Western highland of North America, but not so wide. The Andes highland consists of a long and high plateau, above which rise huge ranges.

The highland of Brazil is in the east. It is not nearly so high as the Andes, but is wider.

There is also the smaller highland of Guiana near the northern coast.

Three great rivers drain the Central plain.



Scene on the Amazon



RELIEF MAP OF SOUTH AMERICA

The Amazon flows in the largest river valley in the world. It is twice as large as the valley of the Mississippi, but the Amazon river is not so long as the great river of our country.

Part of the Amazon valley is called the *selvas*. The word means "forests." This valley is in the rainy torrid zone, and the river carries more water than any other river to the ocean.

Large areas in the Plata valley are like our prairies, but are called *pampas*. The word means "grassy plains."

The plains along the Orinoco river are also grassy. They are called the *llanos*. The word means "plains."

Helps.—Compare the surfaces of North and South America. Where is the Andes highland? How does it compare with our Western highland? What does the relief map show you about the Andes-highland?—the highland of Brazil?—the highland of Guiana?

What three great rivers drain the Central plain? What are the selvas? What is said about the Amazon? What does the word "pampas" mean? Where are the pampas? What river flows across the llanos? Where are these plains?

Study the relief map and tell all you can about the surface and the coast of South America.

62. Map studies

Which ocean is west of South America? Which is east? Along which coast is the Andes highland?

Which part of the Andes highland looks widest on the map? On which side of this highland are there no long rivers? Where is Cape Horn?—the strait of Magellan?

What highland is in the eastern part of South America? Which highland looks the highest? Which looks the widest?

Name a large river flowing eastward near the equator. On which side of this river is the highland of Brazil? In what great highland does the Amazon rise? Its largest branch is the Madeira; where does it rise? Where is the Plata river? To which ocean does it flow? Where is the Orinoco river?

In which zone is the greater part of South America? In which zone do we live? What are the seasons of the torrid zone?—of the temperate zones?



63. Climate

The equator crosses the valley of the Amazon. See globe map on page 77. This valley is wholly in the torrid zone and is hot or warm all the year. There is a dry season and a wet season. Each lasts half the year.

The plains near the Orinoco river are in the same zone. Half the year they have heavy rains. The other six months they are dry.

In this zone the air becomes moist and light. It then floats up to where the air is cold. The vapor cools and falls back as rain. The rains fall mostly in the hottest months.

During the wet months the rain falls almost every day. The rivers then spread over the plains for miles. Grass springs up and the cattle find plenty of food.

Half the year passes and the rains stop. The dry months come and the rivers become smaller. Some even dry up. The grass dies. The cattle are driven to the mountains. The plains of the Orinoco are then like a desert.

Most of the rains of the torrid zone in this continent come from the Atlantic ocean, and nearly all parts of the Central plain have plenty of rain. The same winds carry heavy rains to the east slope of the Andes, where the great rivers rise.

Very little rain falls on the west side of the middle Andes. For a thousand miles there is a region known as the *rainless coast*. The winds from the east give their rain to the east slope of the middle Andes and thus feed the countless sources of the Amazon.

After passing the high ranges the wind is dry and thus we find the long rainless region, of which the desert of Atacama is a part. See page 83. In places the surface of this desert is covered with useful salts. One kind is used in making gunpowder.

Both north and south of the rainless coast the winds often blow from over the Pacific, and the west slopes have rainfall.

The plains near the Plata river are in the temperate zone. They have long hot summers and very cool winters. The southern end of this continent is very cold and stormy.

All the year, even in the torrid zone, the highest peaks of the Andes have snow on their tops. Outside of this zone the snow line is far below the high summits.

There are high plateaus and valleys among the ranges of the Andes. Some are grassy and support many cattle. The high plateaus are cool nearly all the year.

Helps. — Where does the equator cross this continent? Name two river valleys in the torrid zone.

Why are the rains so heavy in the torrid zone? What is said about the rains in the Orinoco valley?

From which side do most of the rains of the torrid zone reach this continent? How much of the continent is in the torrid zone? What can you tell about the rainless coast?

What is said about the seasons in the Plata valley? What is said about the southern end of the continent?

Which parts of the torrid zone are very cold? Of what use are the plateaus and high valleys in this zone?



64. Plants

The grass lands of this continent feed millions of cattle, horses and sheep.

Many useful trees grow in the hot and damp valley of the Amazon. Some yield rubber. Dyes are made from others. Still others supply pretty wood for making tables, chairs and other things.

Rubber is made from the sap or gum of trees. The bark is cut and the milky gum runs into cups. This sap is heated. It dries and forms rubber.

In some places the outer bark of the tree is taken off. The sap then runs out and hardens on the trunk of the tree. This hard sap is rubber. Rubber is made from the sap of many kinds of trees. They grow in nearly all hot and damp parts of the earth.

Two very useful trees grow in the Andes. One is cacao. Chocolate is made from its bean or fruit. Quinine is made from the bark of another tree. This is a bitter powder but a good medicine for fever.

The hilly districts of Brazil are famous for coffee. Cotton, coffee and sugar cane grow in many parts of the continent. Pepper and other spices grow near the north coast.

The coffee plant grows best on the sides of hills. It needs a great deal of rain and warm weather.

The picture shows the little berries that look like cherries. When the berries turn dark red and begin to shrivel, they are picked and put into a machine that takes out the seeds.

Each coffee berry has two seeds or beans. Before the seeds are used they are roasted and ground. Perhaps you have seen a grocer grinding coffee.

The plain near the Plata river is like the plain round the Great Lakes. It has deep and rich soil. Being in the temperate zone and having plenty of rain, it yields large crops of wheat, corn and other grains, like those of the rich prairies.

Helps.—In what parts of a continent can cattle be raised? Why are some of the Amazon trees useful? Tell what you can about rubber. Name some articles made of rubber. Of what use is the cacao tree? Name one place where it grows. What is quinine?

For what are the hilly lands of Brazil famous? Tell what you can about coffee. Try to get some coffee berries to look at. In what zone are the pampas? Name some products of this zone.

65. Animals

The largest bird that flies lives in the Andes. It is the condor and it can kill llamas.

The alpaca and llama of the Andes belong to the camel family. Large flocks of alpacas supply the people with wool. It is woven into cloth.

Llamas were at one time used to carry silver ore down the slopes of the Andes to the coast. Cars and mules now carry most of the ore.

Many wild animals live in the forests and the grassy plains. There are monkeys with long tails. There are boas or snakes that wind around animals and crush them. There are also many birds and insects of bright colors.

Tapirs in the selvas feed on the leaves and tender branches. They have long noses to take hold of branches. Indians like the meat of tapirs.

The ant-eater feeds on ants. It has long claws to open the nests, and a sticky tongue to catch the ants.

The jaguar is like a very large cat. It eats smaller animals.

The white men took cattle, horses and sheep to this continent. Now they are raised in all the grass lands.

Helps.—What is said about the condor? Name two small animals of the camel family. Of what use are alpacas? How is silver ore carried down the slopes of the Andes?

What is said about monkeys?—about snakes?—about tapirs? Describe the ant-eater.

What animal of the cat family is found in this continent? What are the most useful animals of South America?



66. People

Indians are found all over this continent. Millions live in the selvas and the Andes.

The Indians of the selvas are mostly savages. They fish in the rivers and hunt in the forests. The air is hot and they wear little clothing.

Other Indians live among the white people. They have farms and cattle. They build good houses of wood or stone.



Indians of southern Chile

The leading people in all the countries of South America are white. The first white settlers came from Europe long ago. Most of them came from Spain, but the early settlers in Brazil came from Portugal.

Many of the white people went into the Andes highland, where the Indians were finding much gold. But most of the white people settled near the coast, where they could trade with Europe. There they built large cities.

There is fever in the low lands of the west coast. It is carried by mosquitoes that live in wet places. This is the kind of fever that quinine cures. See page 79. Many towns are built on the dry mountain slopes or in the high valleys.

In the middle Andes the white men from Spain found Indians living in large towns. They had learned to cut stone and to make good houses and temples. They had made smooth roads and strong bridges in the mountains.

The white men made slaves of the red men and sent them into the mines to work.

These Indians were called Incas. Many live to-day in the highlands, and they gather cacao from which to make the chocolate we drink. Others strip off the

bark from which quinine is made. Still others work in the silver mines, but they are no longer slaves.

Some of the Inca towns were near lake Titicaca, over two miles above the level of the sea.

Many Negroes were brought as slaves to this continent. Now they are free, and the black people are found in nearly all places where the white men live. They help in the coffee groves and in the fields of cotton and sugar cane. Many also work in the cities.

All the countries of South America are republics except the three small Guianas. These belong to nations of Europe.

Andes
Helps. — In which part of South America do most of the Indians live? Tell what you can about the Indians.

Andes
To what race do the leading people of South America belong? What led some of them to the Andes highland? Where have most of the white people settled? Why do people build most of their trading cities near the coast or near lakes and rivers?

Why have many towns been built in high and dry valleys of the Andes?

Tell all you can about the Incas. What is said about Negroes in this continent? Which parts of South America are now held by nations of Europe? What form of government have all the other countries of this continent?

67. Countries of the Andes

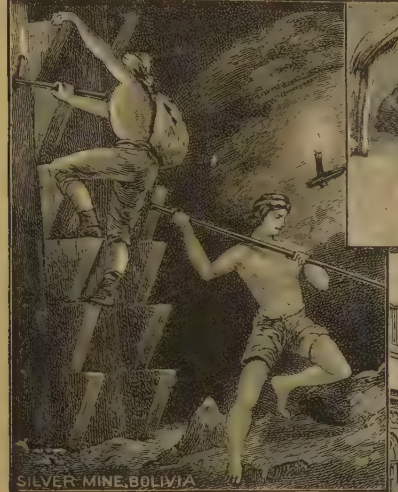
COLOMBIA is at the northern end of the Andes. It is a rugged country and has poor roads. The Magdalena river is the best highway of trade. Colombia is one of the coffee countries. Like all the other countries of the Andes, it has mines of gold and silver.



Street in Buenos Aires



HUT IN COLOMBIA



SILVER-MINE, BOLIVIA



AMAZON HUT



LIMA



yield cacao and quinine bark. Many alpacas and sheep graze on the sides of the ranges and on the high plateaus.

Lima is the chief city of Peru. It is in the highland. Callao is its port for shipping products.

Lake Titicaca lies between Peru and Bolivia. This is one of the highest lakes in the world. The Indians on its shores make boats out of rolls of straw. There are steamers on the lake.

This lake has a small outlet, but it is not large enough to keep the water fresh. The water is brackish or a little saltish.

BOLIVIA is in the widest part of the Andes highland. It has very rich silver mines. This country also has many alpacas and sheep grazing in the high cool valleys. Rubber trees grow in the forests.

La Paz and Sucre are on the high plateau. La Paz is the capital and the largest city.

Helps. — Name some wild animals of the Andes. See lesson 65. Name two metals found in all the countries of the Andes. What have you learned about the isthmus of Panama?

What country is at the northern end of the Andes? For whom was this country named? What are some of the products of Colombia?

What small country of the Andes is crossed by the equator? Name a product of Ecuador. What and where is its largest city? What is said about it?

Why is the highland the best place for a capital? Why is it not the best place for a trading city?

Where is Peru? Name some of its products. What animals of this country supply wool? Where is the capital of Peru? Name its seaport. Where is lake Titicaca? Tell what you can about this lake.

Name some of the products of Bolivia. What is said of La Paz?—

Sucre? One picture on this page shows two Indians in a deep silver mine near Bogota.

Bogota is the capital and chief city. It is high in the Andes, where the people are safe from the fevers of the low coast lands.

ECUADOR is in the Andes, west of the Amazon valley. The equator crosses it and gives it its name. This country raises many cacao trees, and its people sell the cacao beans.

Quito is the largest city. It is in a valley nearly two miles above sea level. There are many volcanoes and snow-capped mountains near this city. Earthquakes are common in the Andes, and most of the houses in Quito and other cities are built low, so as not to be shaken down.

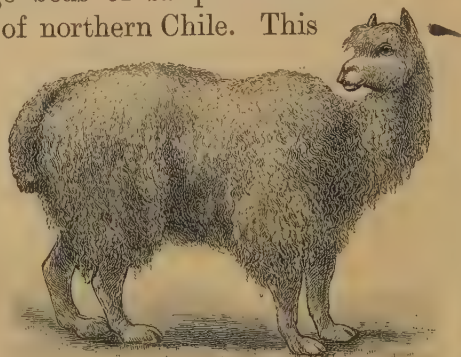
PERU was the home of the ancient Incas. This country has rich silver mines. Its forests

CHILE is a long and narrow country. It lies on the west slope of the Andes.

The mountains of Chile yield much copper and silver. Large beds of saltpeter are found in a desert of northern Chile. This is a kind of salt that forms on some deserts and is used in making gun powder.

We have learned that the Andes of the torrid zone receive most of their rain on the east slope. When the wind passes over the high ranges it is cooled and loses its rain. Thus the west side of the Andes, for over a thousand miles, is a desert. It is in this desert, or rainless coast, that saltpeter is found.

The greater part of Chile is in the temperate zone and has plenty of rain. Only the



Alpaca



Llama

The strait of Magellan is near the southern end of this continent. Many steamers use this strait in going from ocean to ocean. It saves a long trip round stormy cape Horn. The island of Tierra del Fuego, or "land of fire," is south of this useful strait.

Helps. — Where is Chile? Name two products of its mines. What is saltpeter? Where is it found? Why is there a long desert in northern Chile? Can you think why Chile is a narrow country?

In what zone is most of the plain of Chile? Name some of the grains of this zone.

What and where is the capital of Chile? Name the largest port of this country. Where is cape Horn?

Where is the strait of Magellan? Of what use is it? Find out all you can about the great sailor, Magellan.

Jan 17.

68. Other countries of South America

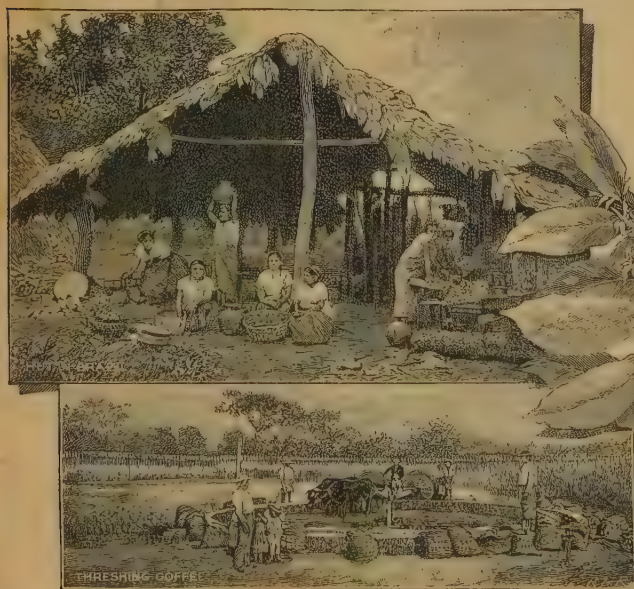
VENEZUELA contains nearly all of the grassy plains of the Orinoco valley. They support millions of cattle. Other parts of this country are hilly and raise coffee.

Caracas is the capital and largest city. It is in the mountains.

GUIANA is the name given to three small countries. They are on the north of the low highland of the same name and belong to the British, French and Dutch nations of Europe.

Gold is found in the highland of Guiana. Sugar cane and pepper are raised in the low lands sloping to the sea.

BRAZIL is the largest country on the continent. It includes most of the Amazon valley. The highland of Brazil is in the eastern part.



Scenes in Brazil

desert in the north is dry. Chile has large fields of wheat and other grains.

Santiago is the capital and largest city. It is in a high valley of the Andes. Valparaiso is the largest seaport of Chile.



Brazil is larger than the United States, but we have over five times as many people. More than one half the people of Brazil are Indians.

Brazil is mostly in the torrid zone. The large rivers show that it has plenty of rain. It is the greatest coffee country in the world.

Sugar cane and tobacco thrive there. We have read about the rubber trees of the hot Amazon valley. The highland of Brazil has good grass land for cattle.

Diamonds are found in this country, but many more come from Africa.

Rio de Janeiro is the capital and leading city. It has a large and deep harbor. This city owes its growth mostly to its coffee trade, which is larger than that of any other city in the world.

Santos also has a large coffee trade. This port is southwest of "Rio."

Para, near the wide mouth of the Amazon, is a noted rubber market.

URUGUAY and PARAGUAY are mostly in the valley of the Plata river. They have good grain and grass lands. The chief products are wheat, corn, cattle and sheep.

The great Parana river from Brazil flows along the east and south sides of Paraguay. The Paraguay river crosses this little country and flows into the Parana, which in turn flows into the Plata river.

Montevideo is the largest port of Uruguay. It is in the wide mouth of the Plata river.

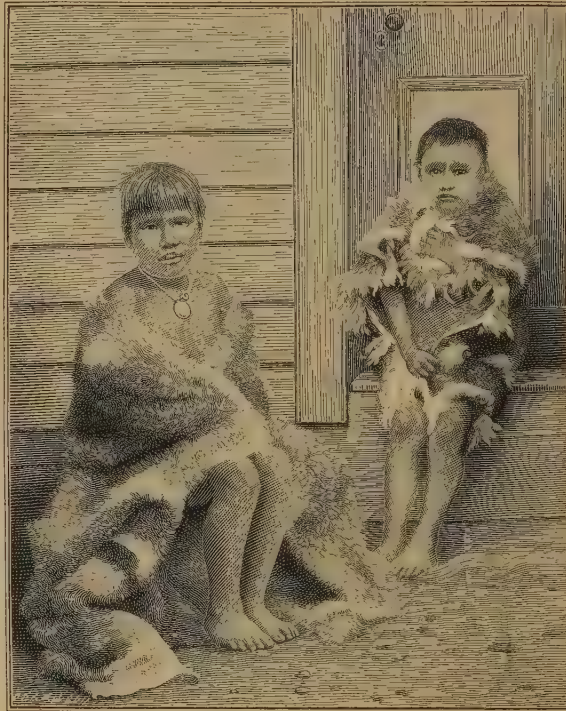
ARGENTINA is east of Chile. The Andes mountains rise between these countries.

Nearly all Argentina is in the temperate zone. Most parts have plenty of rain for grass

and grain. The soil is fertile. Wheat and corn are leading products.

This is the country of the pampas or grassy plains. They feed millions of cattle, sheep and horses.

Buenos Aires is the capital. It is the largest city in the world, south of the equator, but it is only about one fifth as large as New York. Buenos Aires is the great port and market of the Plata valley. It is noted for its beautiful streets and houses.



Indian children of the cold island of Tierra del Fuego

Helps. — Name a country in the valley of the Orinoco. What are some of its products? What and where is its largest city? Where is Guiana? What three nations own parts of Guiana? Name some of its products.

Which is the largest country of South America? What is said of its size and the number of its people? What highland is in the eastern part of this country? What highland is on the north? Where is cape St. Roque?

What great river valley is almost wholly in Brazil? Name some wild animals of Brazil.

How can you prove by the map that Brazil is hot and has

heavy rains? Tell all you can about the products of this country. In what part of Brazil is the port of Rio de Janeiro or "Rio"? Tell all you can about this city.

Can you think why one kind of coffee is called "Rio"? Name another coffee port. For what is Para noted? Where is it?

Where are Paraguay and Uruguay? Where are the Parana and Paraguay rivers? What is the chief port of Uruguay? Where is it?

What large country is east of Chile? What high ranges are between them? Name some of the products of Argentina. In what zone is it?

What is said about Buenos Aires? Think of the products of the Plata valley and tell what you would expect to see in steamers sailing from Buenos Aires.

Why do the children in the picture need furs for clothing? Their cold island was called the "land of fire" because some sailors saw fires or burning torches on it.

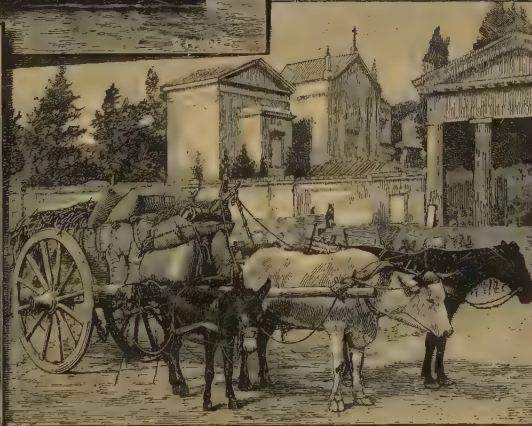
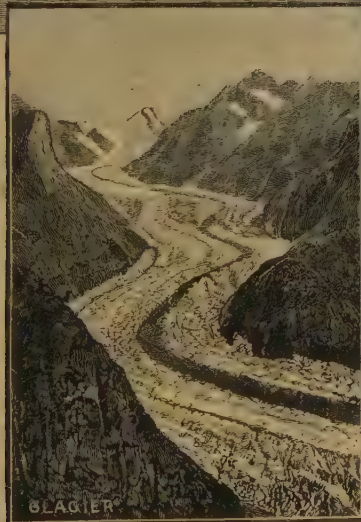
69. Surface of Europe

Europe is a little larger than the United States. Many large bays break into the coast of Europe. Long peninsulas lie between them. There are many deep harbors on these bays, and ships can sail far inland to them.

The southwest part of Europe has many mountains. Some of the ranges are very high. Find the

Black to the Caspian sea. Mt. Elburz, in these mountains, is the highest peak in all Europe.

A low plain covers about two thirds of Europe. The largest part is in Russia. It joins the plain of Siberia on the east. The low Ural mountains rise between the two parts of this



A street scene in Naples, Italy

great plain. It crosses both Europe and Asia. It reaches the Atlantic ocean on the west and the Pacific ocean in the far east.

The rivers on the map show how the land slopes. The plain of Russia slopes gently to the seas on the south, north and west.

The Volga is the longest river of Europe, but it does not drain half so much land as the Mississippi. The Volga flows into the Caspian sea. Most of the rivers of southern Russia flow into the Black sea.

The Central plain crosses Germany and France. Near the sea both countries are level. The parts in the Alpine highland have many ranges.

map. The Alps are the highest range and give the name to the highland.

The Danube is the largest river rising in this highland. It flows eastward to the Black sea. The Rhine flows into the North sea.

The high Caucasus mountains cross from the



RELIEF MAP OF EUROPE



summers are hot and the winters are cool.

The northern part of Europe is very cold. It is in the frigid zone. The summers are short. The winters are long and cold. Few people live in this cold land.

The larger part of Europe is in the cool half of the temperate zone. Its seasons are nearly the same as in the prairies of the United States.

Warm water from the torrid zone near Cuba flows or drifts to the west coast of Europe. Here the winds are mostly from the west, and they brush the water along. The winds are warmed by the water before they reach the west coast of Europe. They make this land much warmer than the east shore of North America, just as far from the equator.

Most parts of Europe have rain enough for good crops.

Helps.—On which side of the equator is Europe? Which is the warmest part of this continent? In which zone is this warm part? What is said of its seasons?

Which part of Europe is very cold? In which zone is it? What is said of its seasons? In which zone is the greater part of Europe? What is said about the climate of this part?

The plateau of Norway is near the northwest coast. It is in a long peninsula.

Helps.—How does Europe compare in size with the United States? What is said of the seacoast of Europe? Which part of Europe has the most mountains? What is said about the Alps? Name the largest river that rises in the Alpine highland. To what sea does it flow? Into what sea does the Rhine river flow?

Which part of Europe is a low plain? In what country is the largest part of this plain? What plain lies east of it? Between what oceans does the great plain lie?

Tell what you can about the Volga river. Into what sea do most of the rivers of southern Russia flow? Name two other countries partly in the Central plain. Which part of these countries is level?

What high land is near the northwest coast of Europe?

70. Map studies

Name two seas, two ranges and a river between Europe and Asia. What long sea lies between Europe and Africa?

What continent is far west of Europe? What ocean is between them? What is the name of the large group of islands west of Europe? What sea is east of the British Isles?

What bay is north of Spain? Name a sea west of Russia. Name a sea north of Russia.

Name a river flowing to the Caspian sea; to the White sea. Name two flowing from Russia to the Black sea. What high range is between these two seas?

Where are the Apennines? Name a range in the Alpine highland. Where are the Pyrenees? What country is south of the Pyrenees?

71. Climate

All Europe is far north of the equator. No part of it is in the torrid zone.

The southern part of Europe is warmest. It is in the warm half of the temperate zone. The

72. Plants

The plains of Europe yield about the same products as the prairies in our country. There are fields of wheat, corn, rye, oats and barley. There is also rich grass for cattle, horses and sheep.

Sugar beets grow in many parts of this continent. One kind of sugar is made from the juice of these beets.

Flax is one of the most useful plants of Europe. It is used in making linen cloth. The stalks yield the fine fiber. If you will untwist a piece of linen thread, you can see the little fibers of flax. They are fine and strong.

Tobacco is raised in many parts of Europe. There are also large forests, and many trees are cut down for lumber. Most of the trees are like those in our own country.

The warm lands in the south of Europe are famous for fruits. Among these are oranges, lemons, olives and grapes. Most of the grapes are used in making wines, but some of them are dried in the sun and sold as raisins.

The mulberry tree grows in these warm lands. Silkworms feed on mulberry leaves. Many people in Europe spin and weave silk.

People feed the mulberry leaves to silkworms. The worms spin long threads and wind them about their bodies. Thus they form cocoons, such as butterflies in our country come from.

Some of the silkworm cocoons contain a mile or even two miles of silk fiber.

If the cocoons are not touched, the worms in them turn to moths, burst out and fly away. If the people wish to use the silk fiber, they put the cocoons in hot water to kill the worms before they turn to moths. Then the silk can be unwound. If the moths break out, the silk is broken into little pieces. Untwist a silk thread and you can see the silkworm fibers.

The plant map on this page shows a silkworm and flying moth. The Chinese made silk cloth long before the people of Europe knew how.

Helps.—In what part of Europe do grains grow? Name some



Plant map of Europe

kinds of grain.

What use is made of the grass lands of Europe?

Name two plants that yield sugar. Which of these is raised in Europe? The sugar beet is

raised also in some parts of our country.

What does the lesson tell about flax?—about tobacco?—about forests?

Name some fruits of Europe. In which part of the continent do they grow? Tell some of the uses of grapes.

Of what use is the mulberry tree? Where does it grow? Tell how many silk fibers are made. How long a fiber may a silkworm spin? If let alone, what does the silkworm change into? What must be done to keep the fibers from being broken? What is said about the Chinese people? The place where the silkworm is shown in the picture has the largest silk mills in the world.



EUROPE

SCALE OF MILES
0 100 200 300 400

COMPARATIVE AREA
400 MILES
PENNSYLVANIA
45,000 SQ. MILES
THIS RECTANGLE CONTAINS
100,000 SQ. MILES

73. Animals

Cattle, horses, sheep and hogs are found in most parts of Europe.

Bears and wild boars are hunted in the forests. The boars have long tusks and are very fierce.

The chamois and ibex are often seen in the Alpine highland. They look partly like deer and partly like goats. They are very shy and have keen sight and scent. In winter they feed on twigs and tender branches of trees. In summer they find grass on the high peaks.

The reindeer lives in the cold plains of the north. It is a very useful animal. It can draw heavy loads on sleds over the snow. People drink the milk and eat the flesh of this deer. They make warm clothing from its skin.

Seals and sea birds are common along the Arctic coast. Song birds are found in nearly all parts of the land.

Some sea birds put soft feathers in their nests. They pluck many of them from their own breasts. Men take the feathers or down to use in pillows. Then the birds fill the nests again.

Fish are caught near all the shores of Europe and



Animal map of Europe

in the lakes and rivers. Men go to the Arctic regions to hunt for whales.

Helps. — Tell some of the uses of cattle; of sheep; of horses. In which parts of Europe are these animals found?

Name two wild animals that live in the forests of Europe. What animal have you seen that looks like the wild boar?

Name two animals of the Alpine highland. Tell what you can about them.

Where is the reindeer found? Tell what you can about this deer.

What is said about seals and sea birds? — about fish? — about whales?

The picture shows the eider duck that supplies the best down. It shows also the clumsy birds called auks.



Russians catching a sturgeon in the Caspian sea

74. People

Most of the people of Europe belong to the white race. They form many great nations.

The first white people lived in middle or southwest Asia. Long ago some of them went to India. Others went west looking for new homes with grass land for their cattle.

At last some of them reached Europe. Many years passed and tribes of white people spread over the whole land.

These tribes are now nations. They have built large cities. They send ships to trade with other lands.

A few hundred years ago white people first went from Europe to America. Others went

People of the yellow race live in the cold plain of northern Europe. Among them are the Lapps and the Finns. Many yellow people live also in the valleys of the Volga and Danube rivers.

Europe has nearly five times as many people as the United States.

One picture on this page shows a Turk. He lives in the country of Turkey.

The other pictures are scenes in the lowlands of Europe, not far from the mouth of the Rhine river.



Turkish officer

Helps. — To what race do most of the people of Europe belong? Tell what you can about the white people and where they came from.

In what parts of Europe do yellow people live? Name two river valleys settled in part by yellow people.

Which is the larger, Europe or the United States? See lesson 69. How do they compare in number of people?



to Australia. White people are now found in most of the ports of the world. We shall study more about the work of the white people of Europe.

Scenes in the Netherlands or lowlands



75. British Isles

The British Isles include two large islands and many small ones. The largest is Great Britain. Ireland is the next in size.

Great Britain consists of England, Scotland and Wales. The people are English, Scotch and Welsh. Ireland is the home of the Irish people. All these belong to the white race.

Most of the high land in Great Britain is in the north and west parts of the island. These parts are too hilly for farming, but have good grass lands for cattle and sheep.

The south and east parts of the island are mostly low or slightly hilly. Here are found the best farms and also many good pastures. Great Britain has much fog and rain. These help to make the grass grow. The damp air blows from over the warm water that drifts across the Atlantic.
See lesson 71.

The United States has the best mines of iron and coal. Great Britain ranks second. Having coal and iron, the British people make nearly all kinds of iron and steel articles that you have ever seen. **Birmingham** is one of the great iron cities.

Many years ago the British people became noted for making woolen cloth. Now they use all the wool raised in their own islands and buy much more from other lands. They also make cotton cloth, but cotton does not grow in the British Isles. It is sent there from our country and from other lands.

The British people weave into cloth about one third of the cotton and wool raised on the earth.

Scotland leads the world in building iron ships. With so many busy workshops we see the need of ships to carry goods to and from the people of these islands. British ships carry one third of the freight of the world.

Ireland has large fields of flax. We have read that this little plant has fibers that are

made into thread. Some of this is woven into cloth and lace.

The cities of England buy vegetables, butter, cheese, chickens and other farm products from Ireland.

In early days sailors often went far away in search of new lands. They came to America. They went to Australia, Asia and Africa, and they claimed the new lands for their kings. England had many ships on the sea, and so found many lands. The British Isles and all the lands belonging to them form the *British empire*. It includes Canada, Australia and other lands that we shall study.

The colonies send many of their products to the British people, who send back articles made in their workshops.



Shipping on the Thames river. The Tower of London

Helps. — Where are the British Isles? Which is the largest island in the group? Which is next in size?

Where is the English channel? What does the strait of Dover connect? What countries does this strait separate?

Name the three divisions of Great Britain. What names are given to the people of these divisions? What are the people of Ireland called? Where is the Irish sea?

What is said about the north and west parts of Great Britain?—about the south and east parts? What is said about fog and rain?

What country has the best mines of coal and iron? Which country ranks second? Of what use is it to a country to have coal and iron? For what is Birmingham noted?

What is said about cloth making in the British Isles? Which of the cloth fibers is in part raised in the British Isles?

What is said about freight on the ocean? Why do the British people need so many ships? Which part of Great Britain leads in shipbuilding?

Name some of the products of Ireland. What is said of Irish flax? Name some parts of the British empire. What small country in South America belongs to the British?

76. Cities of the British Isles

London is one of the great centers of trade. It is the capital of the British empire and the largest city in the world. New York, the second in size, is about three fourths as large.

London is on the small but deep river Thames. The masts of ships on this river

look like a great forest. We should expect to find a great city on



Peat
moss

Piling
peat in Ireland

Top of Mt. Snowdon, Wales

the side of England nearest Europe, for such a city can trade easily with many countries. This city handles nearly all kinds of products of farms, workshops and mines of the world.

The large palace in which the laws of the British empire are made is on the river Thames. The Tower of London, a famous prison of olden times, shows its four high towers in the picture on page 93.

The British Museum in London is noted for its great library and its many rare and costly objects from all parts of the world.

Liverpool, on the river Mersey, is the chief port near the west coast of England. New York and other ports of America send cotton and wool to this port, for the mills of England. They also send grain and meat to help feed the people that work in the cloth and iron mills. Liverpool ships away cloth and iron goods

of all kinds. We can now see why this has grown to be one of the largest ports in the world.

Manchester has the largest cloth mills in the world. Much of its raw cotton comes from our country. A ship canal connects this city with the Mersey river not far from Liverpool.

Sheffield is noted for its fine cutlery or sharp tools.

Edinburgh, the capital of Scotland, is famous in history. You may read much about it in years to come.

Glasgow, a city of Scotland, leads the world in shipbuilding. Shipyards line the banks of the little river Clyde for miles. This city is not far from mines of iron and coal.

Both **Belfast** and **Dublin** are on the coast of Ireland nearest England. Dublin is the capital and



Caledonian
canal,
Scotland

chief city of Ireland. **Belfast** is noted for fine linens and laces, woven by the Irish people. They are skillful in this work.

Helps. — On what river is London? Of what is it the capital? What is said of its size? How does New York compare with it in size?

Why should we expect to find a large port on the east side of England? Tell all you can about London.

For what trade does England also need a port on the west coast? What is the largest port near the west coast of England? What do the ports of America send to Liverpool? What does this city ship away? On what river is Liverpool?



What city has a canal leading to the Mersey river? For what is the city noted? Can you think of what use a canal large enough for great ships would be to Manchester? Why would it not be as cheap to send goods by rail to the coast, and then by ships to other lands? What would ships be likely to carry to Manchester?

Can you name some tools used for cutting? Such tools are called edge tools or cutlery. What city is noted for cutlery?

Tell what you can about Glasgow. Where are Belfast and Dublin? What is said about Dublin? For what is Belfast noted?

77. France

The part of the high Alps having the peak of Mt. Blanc is in eastern France. The west slope of the Alps leads down to the river Rhone. This river is so swift that only strong steamers can go upstream.

Lyon, a city on the Rhone river, has the largest silk mills in the world. Many silkworms are raised in the valley of the Rhone. Silk fiber or raw silk is also brought from Italy and other countries, to be spun and woven in Lyon.

Marseille, the largest port of France, is not far from the mouth of the Rhone. A canal joins this port with the river.

West and northwest of the Rhone valley the land slopes to the Atlantic ocean. The map shows several rivers flowing down this slope to the sea. Most of the country is hilly and many of the hills are covered with vineyards. France is noted for grapes and wines.

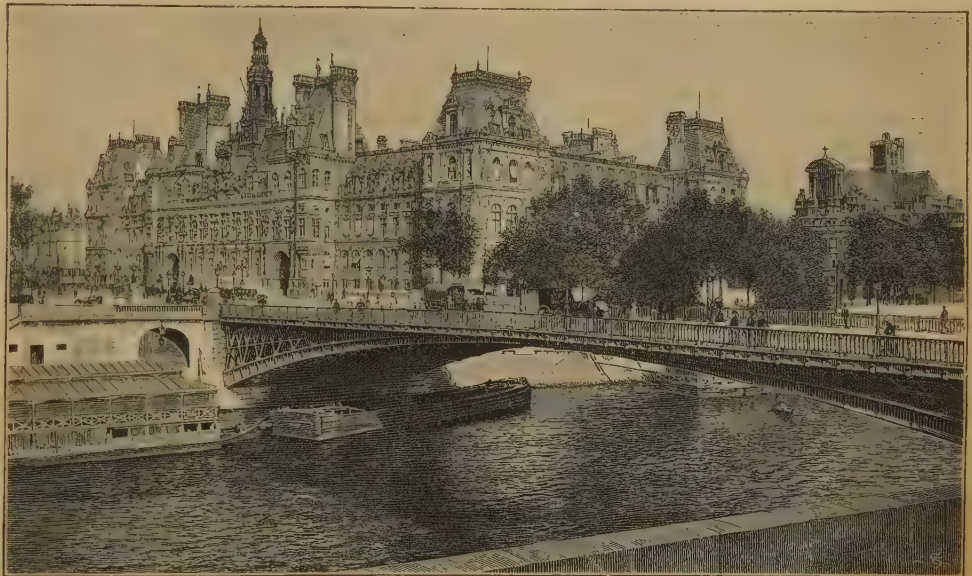
The cool northern half of this country has rich wheat lands. The cities have large mills for grinding wheat to flour. Many sugar beets are raised in the same region.

Paris is the capital of France. It is on the Seine river. This city ranks third in size in the world, only London and New York being larger. It is noted also for its paintings, statues and beautiful buildings.

Havre, at the mouth of the Seine river, is the seaport for Paris.

France has mines of iron and coal, and of course has many mills where iron and steel articles are made. France is a republic. It has large colonies in Africa and Asia.

Helps. — What high mountains are partly in France? Name one of the high peaks. Where is the Rhone valley? What is said about the Rhone river? Name a city on the



The Seine river in Paris

Rhone river. For what is it noted? Where does it get silk to weave? What is the leading port of France? Where is it? How can boats from the Rhone river reach Marseille?

Toward what ocean does the greater part of France slope? What grows on many of the hillsides? Name two other products of the farms of France.

Where is Paris? What is said of its size? Tell what else you can about it. What and where is the seaport for Paris? Why does an inland city need a port?

Name two products of the mines of France. Of what use are such products to a country?

What is the form of government in France? In what continents has France large colonies?

Corsica belongs to France; find it on the map on page 89. Into what bay does the Loire river flow?

78. Germany

Germany is also called the German empire. It consists of several states or countries under one emperor. He is also king of Prussia.

Germany lies north of the Alpine highland. The southern part of the country has many low ranges of mountains. Most of them are covered with forests. This region has mines of iron and coal. The German people take high rank in making nearly all kinds of iron and steel goods.

Middle and northern Germany consist of hilly and level land. This is part of the Central plain. It has plenty of rain and its seasons are like those of the prairies.

Germany has good rye and wheat land. The Germans are fond of rye bread. Great quantities of sugar beets are raised in this country. Sugar is made from the sweet juice of the beets.

Germany has large vineyards. Many of them are on the steep sides of river valleys or on hillsides. The valley of the river Rhine is noted for wines.

Germany, like France and Great Britain, ranks among the leading nations of Europe. The workshops of these countries make almost every kind of useful article. They all have great cloth mills and iron mills. They make fine clay or porcelain dishes. They melt sand into

glass and blow it into beautiful glassware. Their ships trade in all the large ports of the world.

Berlin is the capital of Germany. It is about as large as Chicago. It is noted for its higher schools and for its galleries of painting and sculpture. The emperor of Germany lives in this city.

Hamburg is the largest port on the mainland of Europe. It is in the part of Germany that borders on the North sea. Hamburg is on the Elbe river. A ship canal joins the wide mouth of this river with the Baltic sea at Kiel. *See map on page 97.*

Helps. — Why is Germany called an empire? What is the ruler called? Where is Germany?

A German

Which part of this country has mountains?

Name two products of the mines.

What kind of surface has the rest of Germany? What is said of its seasons? Name two grains raised in this country. From what is sugar in Germany made?

Name a product of the river valleys and hill-sides. In what ways is Germany like Great Britain and France?

What is the capital of Germany? What is said of its size? For what is it noted?

Name a port of Germany. What is said of its size? On what river is it? Into what sea does the Elbe river flow? Name another sea north of Germany. Of what use is the ship canal from this river to the Baltic sea?

What great country is east of Germany?—southeast of it? Name the little mountainous country on the southwest. Name a large country and two small ones on the western border of Germany.

In what direction do most of the rivers of Germany flow? What does this show about the slope of the land?

One of the pictures shows storks on the roofs of Strassburg by the Rhine; in what part of Germany is this city? Into what sea does the Rhine flow?



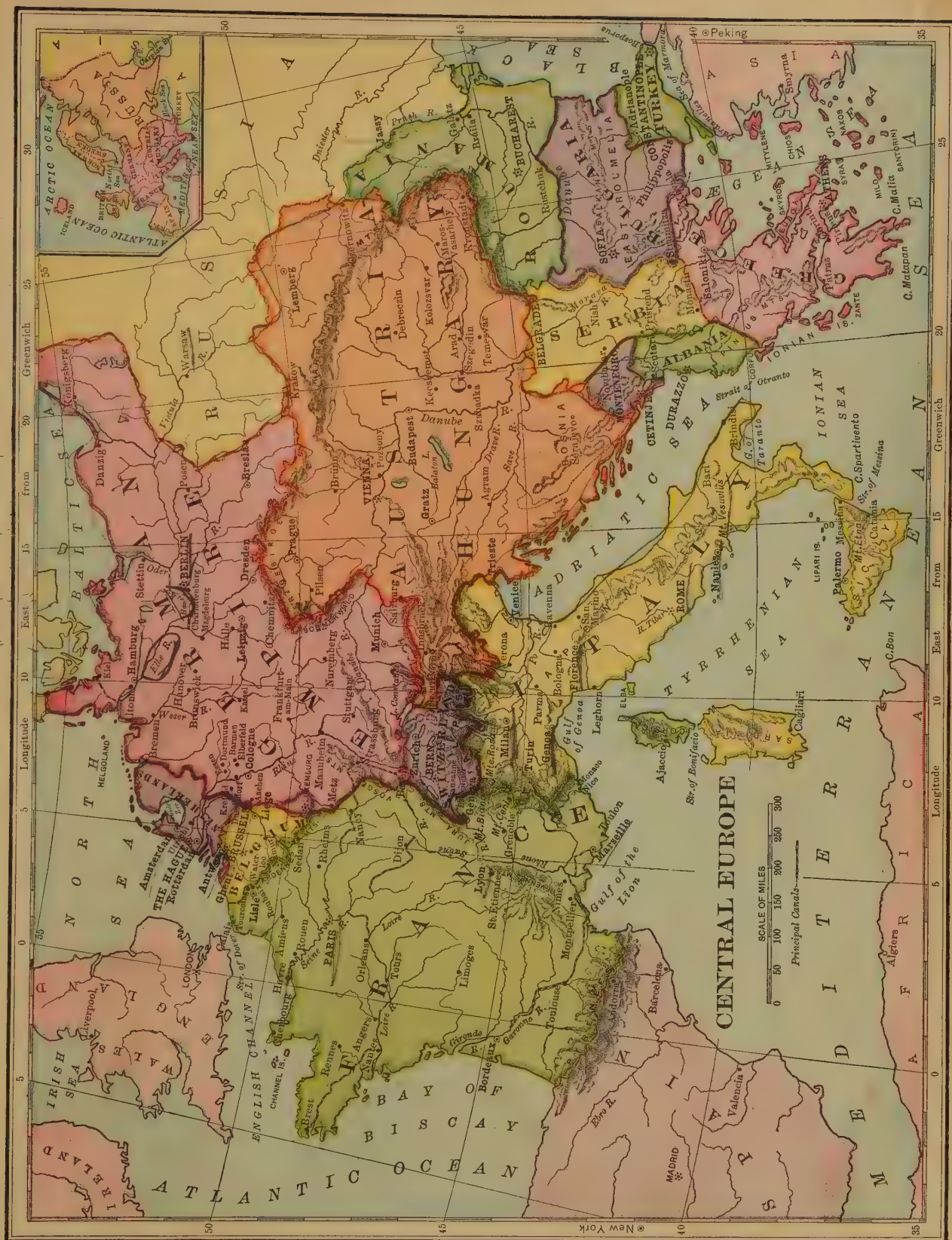
A Norwegian



A German



Roofs of Strassburg by the Rhine



79. Netherlands and Belgium

The word "Netherlands" means *lowlands*. This country is often called **HOLLAND**. The people are Dutch.

The greater part of Holland is very low. A large part is in the delta of the river Rhine. Much of the land is below the level of the sea, and the water is held back by long banks called *dikes*.

This country is noted for its canals. Thousands of windmills are used to pump rain water from the low land into the canals.

The delta land raises fine grass, and the people of Holland have many cows. Butter and cheese are leading products. There are large fields of wheat and other grains. The Dutch sell farm products to the people in the great cities of England.

Amsterdam is the largest city and port of Holland. The lawmakers meet at **The Hague**.

BELGIUM is a land of workshops. It has large fields of flax, and some of its mills make linen cloth and laces. There are mines of iron and coal. These supply mills that make iron and steel goods.

Some parts of Belgium are low, like Holland, and have the same kinds of farm products.

Brussels is the capital and largest city. It is noted for carpets and laces.

Antwerp is a very old city and is the largest port. Long ago it sent more ships to sea than any other city in the world.

A large part of the Kongo basin in Africa belongs to Belgium.

Helps.—What two names are given to the country of the Dutch people? What does the word "Netherlands" mean?

Tell what you can about the surface of Holland. Name some of its dairy and farm products. Where do the Dutch people sell many of their products?

What is the largest city of Holland? In what city are the laws made?

Tell what you can about the products of Belgium. What is the capital? For what is it noted? What is said about Antwerp?

80. Countries of the Northmen

DENMARK consists of a peninsula and many islands. It is mostly low land and has about the same products as Holland. Iceland and part of Greenland belong to Denmark.

Copenhagen is the capital and chief city of Denmark. This city is on an island.

The people of Denmark are the Danes. A few Danes and small bands of Eskimos live in Greenland. They are near the southwest coast, where the water of the ocean is not so cold as it is on the east side. Nearly all of this great island is buried under snow and ice.

Iceland, like the southwest coast of Greenland, is in the path of water that drifts from warmer parts of the ocean. Iceland is not so cold as Greenland, but both are too cold to raise grain.

The Danes of Iceland catch fish and raise sheep. They also sell the soft feathers or down of ducks that go there to make their nests. The birds put the feathers in the nests to keep the little birds warm.

NORWAY is mostly high land. Large areas are buried under ice and snow.

The coast of Norway is high and broken. There are many long and deep bays. Cod and other fish are caught off the coast.

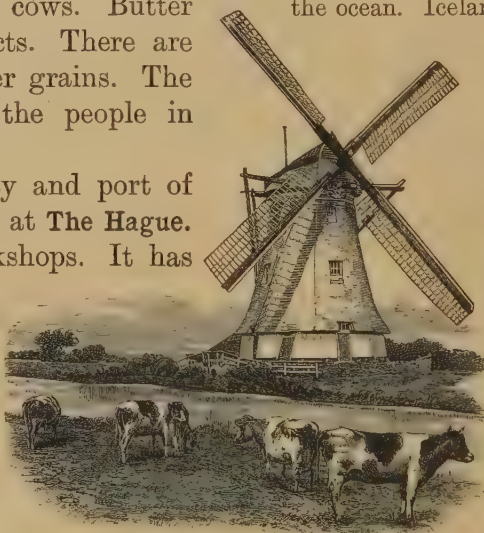
Many people visit the North cape to see the "midnight sun."

Large forests grow in Norway. Lumber is a leading product. **Christiania** is the capital of Norway. **Bergen** is a port on the west coast.

SWEDEN and Norway are in a great peninsula. Sweden is on the east. It consists mostly of hilly or low land. The mines of Sweden yield iron of the first grade.

Stockholm is the capital and chief city of Sweden. The northern part of this long peninsula is in the frigid zone.

Long ago the people of these three countries were famous sailors. They were called Norsemen or Northmen. They sailed their small



Scene in Holland

boats far out into the open sea. They reached Iceland and then Greenland. Then they pushed boldly on till they reached the coast of North America. They were the first white men to see this continent. This was hundreds of years before Columbus was born.

Helps. — What is said about Denmark? What is its capital? What name is given to the people of Denmark? Name two colonies of Denmark. What is said about Greenland? — about Iceland?

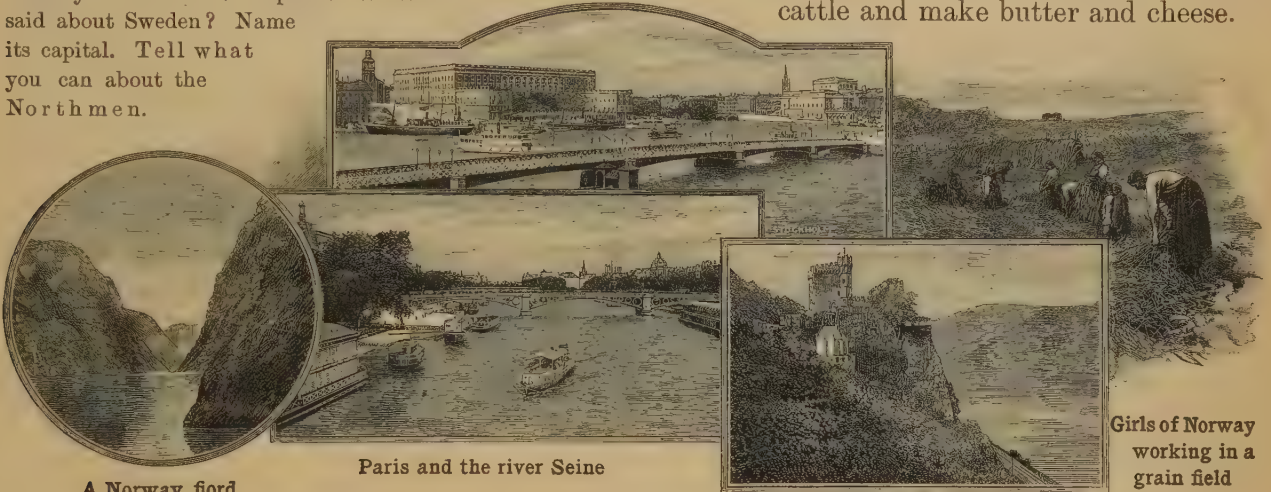
What is said about the surface of Norway? — about its coast? Where is the North cape? Name two products of Norway. What is its capital? What is said about Sweden? Name its capital. Tell what you can about the Northmen.

Vienna is the capital and largest city. It is built on the banks of the Danube. This is one of the largest cities in Europe.

The city of **Budapest** is on the Danube below Vienna. It is near great wheat fields and has large mills for grinding flour.

SWITZERLAND is west of Austria and north of Italy. Many people visit Switzerland to see its snowy peaks, clear lakes and pretty falls. The Alps are partly in this country.

The Swiss people make fine laces and silks. They carve many toys out of wood. They tend cattle and make butter and cheese.



A Norway fiord

Paris and the river Seine

A castle on the Rhine

Girls of Norway working in a grain field

31. Austria-Hungary and Switzerland

AUSTRIA-HUNGARY is an empire in the middle of the Danube valley. It consists mainly of two countries, Austria and Hungary. One emperor rules over both.

This empire has mountains on nearly all sides. They form the rim of the Danube valley. On the west are the Alps. On the east are the Karpethian mountains. The soil of the Danube valley is very fertile. Its products are like those of the Central plain of Europe.

The leading crops are grain and sugar beets. Many wine grapes also are raised here. The grassy slopes of the valley sides feed many cattle, sheep and horses. There are mines of coal and iron in the highlands.

The little Swiss nation is shut in on all sides by other nations. The country has no seacoast.

Geneva is the best known city of this country. It is noted for its fine watches and music boxes. Switzerland is a republic. Its capital is **Bern**.

Helps. — Name the empire in the middle of the Danube basin. To what sea do its large rivers run? Name two countries of this empire. What mountains are on the west? — on the east?

Tell all you can about the Danube valleys and its products. What do its mines yield?

What is said about Vienna? — about Budapest?

Where is Switzerland? Why do so many people visit it? Tell some kinds of work that the Swiss people do.

What are made in Geneva? What is the capital of the Swiss republic?

82. Russia

Nearly all Russia is a plain. Its northern part is very cold. The warm winds from the Atlantic do not reach so far inland, and the soil is frozen nearly all the year. Trees cannot grow there, but moss for reindeer grows even under the snow.

South of the frozen plain lies a forest belt. Still farther south are lands like our prairies, yielding wheat, rye and other grains. There are also large tracts of grass land where cattle, sheep and horses graze.



Church in Moscow

The plain round the Caspian sea is too far from the ocean to receive much rain, but enough falls there to support some grass. Many cattle feed there.

There is not enough rain to make the Caspian sea overflow. It has no outlet and is very salt.

There are large oil wells near this sea. Some of the petroleum is burned to heat the boilers on steamers on the Caspian sea and the rivers flowing into it.

Gold and iron are found in the Ural mountains, on the eastern border of Russia.

Petrograd is the capital and largest city of Russia. This city is reached by canals from nearly all parts of Russia.

Many years ago Moscow was the capital of Russia. One of the rulers saw that his country could never be great and strong unless it had a port on the west. His name was Peter; he founded Petrograd on the low islands near the mouth of the Neva river.

The Neva flows from lake Ladoga, the largest lake in Europe, to the gulf of Finland.



Town near Petrograd



Plowing in southern Russia

other parts of Asia. The ruler is called a czar or emperor.

Only a few years ago most of the poor people of Russia were serfs or slaves.

They worked on the lands of the rich people, or nobles, and were sold with the land. One of the czars set them free.

Helps. — Name three seas that border on Russia. Which of these is the coldest? Where is the gulf of Bothnia? Where is the Baltic sea?

What low range is between Russia and Siberia? Name a low range on the southeast border of Russia.

What is the longest river of Russia? Into what sea does it flow?

Which part of Russia is the coldest? What is said about plants in this frozen region?

What belt lies south of the frozen lands? What is said of the lands still farther south? Name two grains of Russia. Name some of the animals that graze there.

What is the capital of Russia? Tell what you can about this city. Can you think why Peter did not build his city on the Arctic coast or the Caspian sea? What is said about lake Ladoga?

What is said about Moscow? — about Warsaw? — about Odessa? What name is given to the ruler of Russia? What is said about the serfs?

Name a part of Asia that is held by Russia.

83. Italy

Italy is a long peninsula south of the Alps. The Apennines run through it like a backbone.

The fertile valley of the Po river spreads out from the foot of the Alps. Nearly all kinds of grain grow there.

Oranges, lemons, olives and grapes thrive in Italy. The mulberry tree grows well and the country is noted for its silks.

Some of the large cities of Italy are near the west coast. The most famous is **Rome**. At one time this city ruled nearly all the known world. Some of its ruins can still be seen. A new city has been built over the ruins.

St. Peter's and the Vatican are both in Rome. The former is the largest church or cathedral in the world. The latter is the home of the Pope and contains many works of art. It has many famous paintings and statues. The king of Italy lives in Rome.

Naples is the largest city in Italy. Its bay is one of the most beautiful in the world.

The volcano Vesuvius is near the bay of Naples. Long ago the ashes and lava from this volcano buried three cities.¹ Hundreds of years passed and people no longer knew where the cities were buried. Over them were planted vineyards and fruit groves.

At length the ruins were found. Out of the ashes have been dug statues, temples, paved streets and many other things. They show us how the people lived in those early years.

In 1906 an eruption of Vesuvius buried several towns and killed hundreds of people.

Genoa is a seaport on the northwest coast of Italy. Columbus was born in this city.

Venice is built on low islands not far from the mouth of the river Po. Canals largely take

the place of streets in this city, and people travel in boats or gondolas.

Milan is the center of trade in the Po valley. **Florence** is famous for its paintings and statues.

The islands of Sicily and Sardinia belong to Italy. Sicily produces lemons and oranges.



St. Peter's and St. Angelo, near the Tiber river, Rome

some of the fruits of Italy. What is said about silks?

Tell all you can about Rome. What is St. Peter's? What is the Vatican? What is the ruler of Italy called? Where does he live?

What is the largest city of Italy? What is said about Vesuvius? Where is Genoa and for what is it noted?

What is said about Venice? Name the trade center of the Po valley. For what is Florence famous?

Where is Sicily? To what country does it belong? Name two of its products. Where is Sardinia?

84. Spanish peninsula

SPAIN and **PORTUGAL** occupy a great peninsula in southwest Europe. The Pyrenees range stands between Spain and France.



Girls of Italy

The rock of Gibraltar rises from the sea on the south coast. It is a huge mass of rock near the strait of Gibraltar. What sea and ocean does this strait connect?

This rocky mass has been made into a strong fortress. It is held by the British nation.

¹ This was the year A.D. 79. Pompeii was the most noted of the buried cities.

This peninsula is made mostly of plateaus. Several mountain ranges rise above them.

The plateaus of the peninsula are not very high. They do not receive enough rain and few trees grow on them. Along the coast and in the river valleys there are fertile plains where grain and fruits grow. Here are grapes, oranges, olives and nuts. Most of the olives are pressed for their oil. Nearly all the grapes are pressed for wine, but some are dried and sold as raisins.

Many cattle and sheep graze on the uplands. Spain has rich mines of iron, copper and quicksilver.

Madrid is the capital and largest city of Spain. It is on a plateau not far from the center of the country. The king lives in Madrid.

Barcelona is the largest port of Spain. It is on the east coast. This city exports wine, fruits and olive oil.

Columbus sailed in the year 1492 from the little port of Palos, in Spain.

Portugal is west of Spain. The two countries have about the same kinds of products.

Lisbon is the capital and chief city of Portugal.

Brazil was settled by white people from Portugal. The white people of the rest of South America are mostly of Spanish descent. Spanish people also settled Mexico, Cuba and Porto Rico.

Helps. — What two countries are in the Spanish peninsula? Where is it? What mountains are between France and Spain? Tell what you can about Gibraltar.



Spanish boy

What is said of the surface of this peninsula? Which parts of the peninsula have but little rain? Where are the most fertile lands? Name some of the fruits. What use is made of olives? — of grapes?

Name two useful animals of the peninsula. Name three products of the mines.

What and where is the capital of Spain? What kind of government has Spain? Name the largest seaport. Where is it? Name some of its exports.

Where is Palos? For what is it noted?

Where is Portugal? What is said about its products? Name its capital.

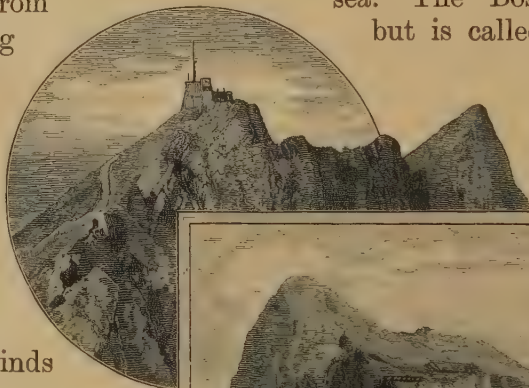
What is said about the people from Spain and Portugal in America? The Balearic islands and Canary islands (see page 132) belong to Spain; where are they?

85. Turkish peninsula

The Turkish peninsula is south of the Danube valley. It contains several countries. One of these is **TURKEY**.

The ruler of Turkey is called a sultan. He lives in **Constantinople**. This city is on the strait of Bosphorus, the outlet of the Black sea. The Bosphorus is a river, but is called a strait.

The people of Turkey are very poor. The ruler taxes them cruelly,



Rock of Gibraltar and the lookout tower



Turkish woman

and they cannot help make any of the laws.

A large part of Turkey is in southwest Asia.

Turkey is mostly hilly land, but many cattle and sheep feed on the grassy slopes. Wheat, tobacco and grapes grow in many of the fertile valleys.



In the peninsula with Turkey are several small countries often called the Balkan States, from the Balkan mountains. They are Roumania, Bulgaria, Serbia, Montenegro, Albania and Greece. Greece was one of the most famous lands of ancient times. Its capital is Athens. The city has many ruins of temples.

The Greeks of long ago made the most beautiful statues in the world. They carved them in fine marble taken from the hills near Athens. Hundreds of these statues have been taken from Greece

and carried to art museums in other countries. Many of them are in Paris and London.



Greeks

Helps. — Where is the Turkish peninsula? Between what seas is it? Name the largest country in this peninsula.

What is the capital of Turkey? Where is this city? *K. Stant*

What is said about the people of Turkey? Name some of the products. Where is the island of Crete? See page 89.

Name two small countries that border on the Black sea. On what river is Serbia? On what sea is Montenegro? Where is Albania?

What small country is southwest of Turkey? What is its capital? Can you tell why many people visit Athens?



86. Map studies

What three oceans border on Asia? In what direction are the Philippines from this continent? Where are the Japan islands? What continents are west of Asia?

What one almost touches its north-east coast? Name two seas between Europe and Asia. Where is the Red sea? — the bay of Bengal? — the China sea? — the sea of Japan? — Bering sea?

Between what seas is Kamchatka? — Korea? — the Malay peninsula? Between what bay and sea is India? Name a gulf and four great seas that border on Turkey. What gulf is between the Red sea and the ocean?

What sea is west of Japan? — of the Philippines? Where is the island of Borneo?

In which part of Asia is the highland of Tibet? On which side of this highland is the vast plain of Siberia? On which side are the plains of India? On which side are the long slopes of China? Where are the Himalayas? In what chain is Mt. Everest?

Which part of Asia is nearest the equator? See globe map on page 108. In which zone is the north coast? In which zone is the southern part of Asia? In which zone is the greater part of this continent?

87. Surface of Asia

Asia is the largest continent. It has over a third of all the land of the earth, and is about

equal to the two Americas. The coast of Asia is broken by many large bays. On the east and southeast are many islands. Among them are the Philippines. The highest land in the world is in Asia. It is the highland of Tibet. Most of it is a great plateau three miles above sea level. Some of the ranges rise nearly



ASIA

twice as high. Their summits are white with snow all the year.

Tibet lies between the Himalayas on the south, the Kuenlun mountains on the north, and the Hindu Kush range on the west. *See map on page 107.* The highest peaks are in the Himalaya mountains.

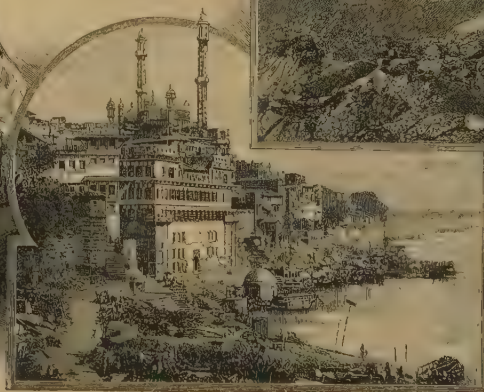
The word "Himalaya" means *home of snow*. Some of the peaks of this huge chain are five and a half miles above the sea. Mt. Everest is the highest peak known.

Snow buries the tops of the Himalaya mountains. The snow line is far down the slopes. The beds of snow on the peaks melt and feed large rivers. Many of them flow south into India.

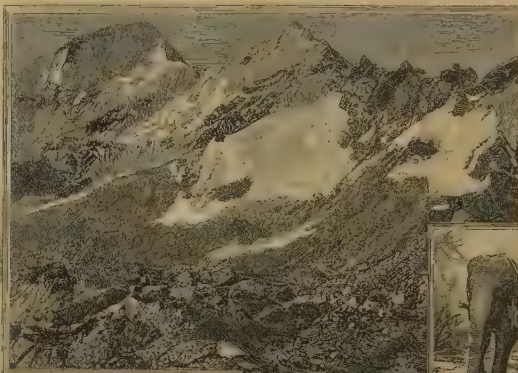
The Himalayas rise between the lands of the white people of India and the yellow people of Tibet.



Woman of India



Benares on the Ganges



Himalayas



Natives of Ceylon

border on Tibet. Which is the highest range?

What does "Himalaya" mean? How high are some of the peaks of this range? Name the highest peak. What is said about snow on this range?

Vast plains stretch away from Tibet to the shores of three oceans. On the north is the plain of Siberia, east of the plain of Russia. Long rivers from the highland flow north to the Arctic coast.

The plains round the Caspian sea send no water to the ocean. They are mostly below sea level. There is not rain enough to fill the Caspian and make it overflow. The plains produce some grass for cattle.

South of Tibet are the plains of India. They are warm and fertile. Part of the year they have heavy rains. The Ganges is the largest river in India. It flows from melting snow and ice far up on the Himalayas.

China slopes east from the highland of Tibet. Long rivers flow down the slope to

the sea. A large part of China is hilly. The part near the Yellow sea is a wide fertile plain.

Indo-China is east of India and south of China. Some of its long valleys between the ranges are very fertile.

Nearly all of southwest Asia is high land. Large areas are dry and sandy. Only a little rain falls. Moist winds from the ocean do not often blow here.

Helps. — What is said about the size of Asia? — about its coast? Which part of Asia is highest? What is said about the height of the plateau and the ranges? Name three great mountain ranges that

What races of people does this high range separate? What race lives in China? — in India? Where is the plain of Siberia? To what ocean do most of its rivers flow? What plain is west of Siberia? What is said about the plain round the Caspian sea? What does lesson 82 tell about the Caspian?

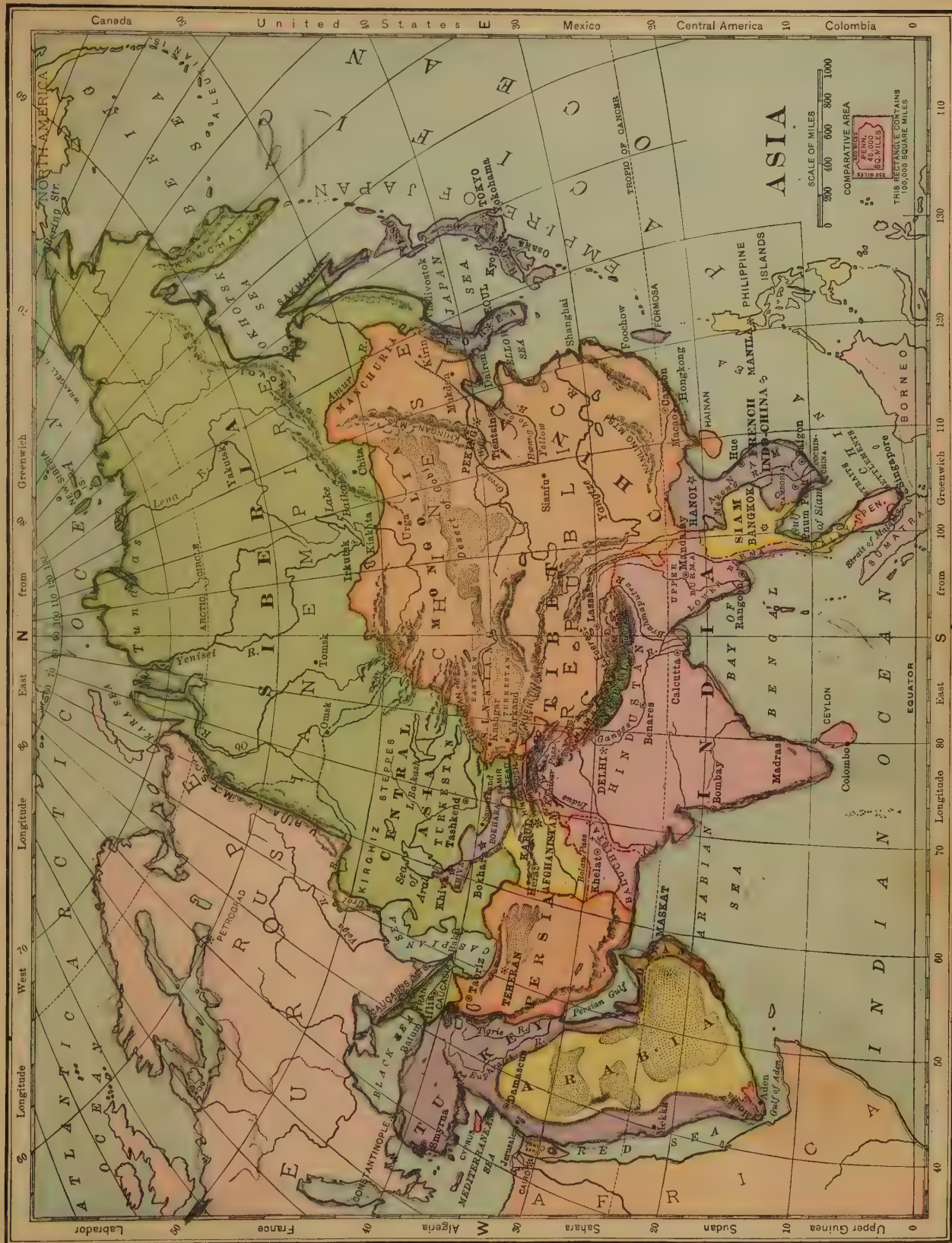
What is said about the plains of India? Where does the river Ganges rise? What great empire slopes east from the highland of Tibet? What is said about the surface of China?

Where is Indo-China? Can you think why it was given this name? What is said about its valleys?

What is said about southwest Asia?

Where is the desert of Gobi? How are deserts shown on the map on page 107? What mountains are east of this desert?

Turkestan is shut in by high mountains; can you think why it is largely a desert? Where is the great desert peninsula of Arabia?



88. Climate

Southern Asia is in the torrid zone. Part of India and Indo-China is in this hot zone. During the hotter months they have plenty of rain. India has warm rains from the Indian ocean.

The northern part of Asia is in the frigid zone. This part is near the shore of the Arctic ocean. The coldest lands known in the world are here.

The rest of the continent is in the temperate zone. This is a very wide zone. Its northern part is cold and has short summers and very long winters. Most of Siberia is in this cold half of the zone.

China and most of Japan are in the warm half of the

The middle of Asia, among the high ranges, is dry. The winds from the sea lose their rain in passing over the ranges, before they reach so far inland.

Southwest Asia has little rain. Most of the fertile places are where water from rivers is led in ditches or canals over the land.

Helps.—Which part of Asia is in the torrid zone? Which part is in the frigid zone? In which zone is most of the continent?

Which part of the temperate zone is coldest? In which part of this zone are nearly all of Japan and China?

What is said about rains in India?—in southwest Asia?—in the middle part of Asia? Why is middle Asia dry?



89. Plants

The tea plant grows in the east and south-east parts of Asia. Japan and China are noted for tea.

Tea plants grow best in hot lands. Every few months the leaves are ready to be picked. The young leaves make tea of the best flavor.

The leaves that are to make black tea are first spread out to dry. They are then heated. Next they are rolled in the hands to press out the juices. The leaves dry and turn black. They are ready to be packed in boxes.

To make green tea the same kind of leaves are dried very quickly after picking.

It takes several pounds of fresh leaves to make one pound of tea. Unroll some tea grounds and you will see tea leaves.

Rice is a kind of grain. Much of it grows in the wet lands of east and southeast Asia. Millions of people live on rice. Cotton and sugar cane are raised in about the same parts of Asia, from Japan to India. Wheat and millet also grow there. Millet is a grain. It is used for food in China and other parts of Asia.



Tea farm

temperate zone. The extreme southern part of China enters the torrid zone.

The mulberry tree grows in the warm and moist parts of Asia, from Japan and China to India. The people of southeast Asia spin silk into thread and weave fine silk cloth.

Ceylon, an island south of India, is noted for tea. Cinnamon also comes from this island. Java, an island southeast of Asia, is famous for coffee and spices. This is Java coffee.

Some of the river valleys of southwest Asia produce wheat, dates and figs. Coffee grows well near the shores of the Red sea. This is Mocha coffee.

Bamboo grows in southeast Asia and the islands of the East Indies. It is like a giant grass, and often grows seventy feet high. Its stem

Among the useful trees is teak. It thrives in Indo-China. The wood is carved into beautiful furniture. Some of it is used in building ships.

Eastern Silk Industry
Helps. — Where does the tea plant grow? Tell all you can about tea. What does the picture show about tea?



Plant map of Asia

is hollow and it floats easily. The people use it in making boats.

Bamboo has many other uses. Its young and tender tops are cooked for food. Its hollow joints are made into dishes. This plant is used also in making all kinds of furniture such as the brown and the yellow people use.

Rattan also grows in these hot lands. You have seen "cane-seat" chairs. The cane is rattan cut into thin strips.

The banyan tree grows in these same regions. Long shoots grow down from its branches and take root. One tree may thus cover a large area.

Name three kinds of grain and a useful fiber plant that grow in east and southeast Asia. Where does the mulberry tree grow? What have you learned about silk? See lesson 72.

Where is Ceylon? Where is Java? See *Java on the map of Australia*. Name some products of these islands. Name some products of southwest Asia. Name two kinds of coffee and tell where each grows.

Where does bamboo grow? Tell all you can about it. What is said about rattan?—about the banyan tree?—about the teak tree?

90. Animals

The white bear, the seal and many sea birds are found near the Arctic shore. In the cold parts of Siberia tribes of yellow people keep herds of reindeer. Large deer called elks live in the forests of Siberia. Many little fur animals also live in these cold forests.

The yak is found in the highland of Tibet. This is a very useful animal. It carries heavy loads on its back. It supplies milk and meat for food, and warm skins for clothing.

Camels with two humps live in the dry central parts of Asia. They are very useful animals. Camels with one hump are found in southwest

Many gavials feed in the delta mouths of the Ganges river.

The warm parts of Asia have many birds, snakes and monkeys. One of the most poisonous snakes is called the cobra, or hooded snake. It kills many people.



India has many large animals. Great elephants live in the dense forests or jungles. Tigers hunt in the same places. Here also during the day the rhinoceros sleeps in the swamps, but at night comes out to feed on bushes and grass.

Two of the most useful animals are the zebu and the buffalo. Zebras are cattle. They have humps on their shoulders. These animals do the same kind of work as oxen. Most of the zebras are in India.

Large crocodiles live in the rivers of southern Asia. One kind is called the gavial.

Helps.— Name some animals found near the Arctic shores. Tell what you can about reindeer.

Where are elks found? In what part of Asia are there many fur animals?

Can you think why good fur-bearing animals are not found in hot countries? Tell what you can about the yak; about camels.

How do the camels of central Asia differ from many of those of southwest Asia and the desert of Sahara?

Name some of the large wild animals of India. What is the largest animal you have seen? What is said about the zebu?

What long animal is found in the rivers of southern Asia? Name some other animals of the warm parts of Asia.

91. People

Asia is the home of three races of men. They are the brown, the yellow and the white races.

Brown people live on the islands south-east of Asia. Many also live on the long Malay peninsula. Brown people are often called *Malays*.

The brown people raise spices, coffee, sugar cane, rice and many other useful plants. They have herds of buffaloes and other animals. They make cloth and metal goods. They build cities and trade with foreign nations.

On some of the smaller islands the brown people are savages.

The yellow people live north and east of the highland of Tibet. Most of the yellow people live in China and Japan. About one fourth of all the people in the world are in China. Tribes of poor yellow people live in the cold

parts of Siberia and Europe.

The yellow people raise tea, rice and many other products. They have large cities. Great ships visit their ports to trade.

Most of the people of India and southwest Asia belong to the white race. India contains one fifth of the human race. It is thought that our forefathers of long ago came from middle or southwest Asia. *See lesson 74.*

The white people in Asia raise about the same products as the yellow and the brown people.

Many white people from Russia in Europe have moved or been sent into Siberia. They have built cities in the warmer part of that country.

A little over half of all the people in the world live in Asia. The two most thickly settled regions are the plain of China and India. The former is settled by yellow people and the latter by white people. The highlands of middle Asia and the cold plains of Siberia have few people. Millions of brown people live in the East Indies.

Helps. — Name three races of people in Asia.

Where do most of the brown people live? Can you think why they are often called Malays? Name some of the products raised by these people.

In what part of Asia do yellow people make their home? In what countries are most of them found? What is said about the number of people in China? What tribes live in Siberia? Name some products raised by the yellow people. What else is said about the yellow people?



People of India



A Chinaman



A Java girl



Arab family; white people of southwest Asia

Southwest of Asia.
In what parts of Asia do white people live? What is said about their products? To what two races do the people of Siberia belong? From what part of Europe did the white people of Siberia come?

What is said about the number of people in Asia? What two parts are most thickly settled?

16 1921
 92. Republic of China

The republic of China, or Chinese republic, covers one fourth of Asia.

The western part of this great country is **TIBET**. It has some of the highest mountains on the earth. Most of Tibet is a desert. It is very high and cold. There is only a short summer. Nearly all the people live near rivers that flow from melting snow.

The northern part of this country is called **MONGOLIA**. The Altai mountains are on the northwest and the Khingan mountains on the east. On the west rises the lofty Tien Shan range. Mongolia is so far from the sea and so shut in by mountains that it has but little rain. The desert of Gobi is in this region. Around it are grass lands where camels, sheep and horses graze. The towns are small and the people are very poor.



Street scene in China

East of Mongolia lies **MANCHURIA**. It reaches the Amur river on the north. This is the region over which the Russians and Japanese fought a bitter war, but it belongs to China.

The part of the Chinese republic east of Tibet is **CHINA**. Most of it is hilly. There are low lands in the river valleys and near the coast.

Two large rivers rise in Tibet and flow eastward across China. One of these is the Yellow river. It is also called the Hwang ho. The other is the Yangtze. These two rivers have made the largest delta in the world. It is called the plain of China.

The plain of China is made of yellow mud which the rivers have brought down. The mud settles near the mouths of the rivers. Every year the plain is growing into the sea, as new mud islands are made.

Few steamers try to go up the Yellow river. In places it runs very swiftly. In other places the mud makes bars in the water. This river has often burst its banks and drowned thousands of people. It is called "China's sorrow." Only a few cities have been built near the river.

The Yangtze river is deep and steamers can go over a thousand miles up from the sea. Large cities have been built on its banks.

This delta plain lies along a large part of the coast of China. It also extends far up the Yangtze river. This is the most fertile part of China. In this plain live nearly one fifth of all the people in the world. The soil must be very rich to supply them with food.

The mulberry tree grows in nearly all parts of China. Silk is a leading product.

Rice and cotton grow best in the warm lands in the south of China.

Tea grows in the hilly lands of western and southern China.



A Chinese village

The Chinese were the first to make gunpowder and firecrackers. They were also the first to print on

paper. This they did before white people knew how.

The Chinese have only a few hundred miles of railroad. They know little about machines for making cloth. Other nations have better ways of making iron and steel goods. The Chinese have now thrown off the yoke of the old rulers and formed a republic. It is thought that the people will now progress more rapidly. The Chinese of the seaports are learning much from white people who go there to trade.

The Chinese are a very old nation. They have some of the largest cities in the world. They made fine silks and dishes or china ware long before the people of Europe knew how.

The president of China lives in **Peking**, the capital.

Hongkong is a small island near the coast of China. It belongs to the British people. Most of the people of Hongkong are Chinese. There are only a few thousand white people there. Hongkong has over half the foreign trade of China. Tea and silk are the chief products sold by China.

Canton is the largest port of China. It is on a small river about a day's sail from Hongkong. **Shanghai** is one of many other large ports in China.

Helps.—How large is the Chinese republic? Where is Tibet? Tell all you can about it.

What is said about the northern part of the Chinese republic? Where is the desert of Gobi? What animals feed near this dry region? What mountains border on Mongolia? What river flows along the northern border of Manchuria?

What name is given to the part of the Chinese republic east of Tibet? Which part of China is level land? Name two large rivers that cross China. Where do they rise? What great work has been done by these rivers? Why is the plain of China growing larger? Why are there few steamers on the Yellow river? Why have only a few cities been built near this river?

What is said about steamers on the Yangtze river? How can steamers help to make cities grow? Why is the Yellow river called "China's sorrow"?

In which part of China is the low plain? How many people live on this plain? In which parts of China does the mulberry tree grow? Of what use is this tree? Name some products of China.

Tell all you can about the Chinese people. What name is given to the ruler of China? Where does he live? In what part of China is Peking?

What and where is Hongkong? To what nation does it belong? What is said of its trade? What are the chief exports of China? Name the largest port of China. Where is it? What great river reaches the sea north of Shanghai?

93. Empire of Japan

The empire of Japan embraces a chain of islands east of Asia, and also Korea on the mainland. Mountains run like a backbone through the islands. The slopes to the sea are narrow and the rivers are short and swift. They turn many mill wheels. Some of the water is led into large rice fields.

These islands are across the ocean west of the United States. They are mostly in the warm half of the temperate zone. Most parts of this group of islands have plenty of rain.

The chief grain of Japan is rice. Other grains also are raised here. Tea is a leading product. Japan sells tea but buys sugar.

The mulberry tree grows in Japan. Silk cloth is made and sold by the people, but they buy a great deal of cotton and woolen cloth from other lands. Japan also makes cotton cloth, but it has to buy the cotton fiber.

Japan has coal and some iron, but also buys iron from other countries. Iron ships are built



A Japanese village

in Japan. There are railroads between the large cities. The United States buys more than any other country from Japan.

Korea is mostly a peninsula. It lies between the Japan and Yellow seas. The people of Korea have little to do with other nations, but they trade with the people on the islands of Japan.

Helps.—What does the empire of Japan embrace? What is the chief grain of Japan? Name another product of Japan that grows also in China.

What useful tree grows in both Japan and China? What worm helps to clothe many people? What is said about silk? What kinds of cloth does Japan buy? Why does Japan have to buy cotton fiber? Name two kinds of cloth made in the mills of Japan.

Name two products of the mines of Japan. What country buys the most from Japan? What country sells the most to Japan?

The Japanese people belong to the yellow race. They have made more progress than any other nation of yellow people.

About four million children are in the schools of Japan, and many young men have been sent to the best schools in foreign countries. Some also have gone to the workshops to study how other nations do their work. They study the machines and learn how

to use them. This is why the people of Japan have made more progress than the people of China.

The people of both China and Japan are famous for silks and dishes. They are also very skillful in carving wood and ivory. They make fans and other pretty things out of paper.

Japan is an empire. The emperor is called the mikado.

Tokyo is the capital of Japan. It is on the island of Hondo. This city is about as large as Chicago. Tokyo is famous for its temples and beautiful gardens. There are many workshops in the city.

Yokohama is the port of Tokyo. This city has a large trade with foreign countries.

Kyoto is noted for its great temples.

We have read about the British Isles west of Europe. The islands of Japan have a little greater area and a larger number of people.



A Malay girl



A Malay home

To what race do the Japanese belong? What is said about the schools of Japan? In what ways do these people try to learn? What else is said about the people of Japan? What is the ruler of Japan called?

What is the capital of Japan? What is said about it? What is the port for Tokyo? For what is Kyoto noted?

What is said about the British Isles and Japan?

94. Southeast Asia

Southeast Asia is a large peninsula. Long ranges run into it from Tibet. Swift rivers flow in the long valleys between the ranges. The Mekong river is the largest.

The river valleys of Indo-China are fertile. They are all in the torrid zone.

The chief crop is rice. Other products are tobacco, sugar and spices.

The teak and other trees supply valuable lumber. There are good grass lands for cattle.

FRENCH INDO-CHINA.

The eastern part of the peninsula is held by France and is called French Indo-China. Most of it is east of the Mekong river. Part of it is Anam.

SIAM is west of the Mekong river. This country has its own king. The people are very poor. The soil is not planted with care.

Rice is the leading crop of Siam. Most of the people live on this grain.



A Malay boy

STRAITS SETTLEMENTS. The lower part of the Malay peninsula belongs to the British nation. It is called the Straits Settlements. A strait separates it from the island of Sumatra.

Near the south end of the peninsula is the city of **Singapore**. It is on a small island of the same name.

Singapore is a great seaport. It has a deep harbor. Most of the tin used in the world is sent from this port.



Man of Borneo

Nearly all the people of southeast Asia belong to the yellow race. Many brown people live in the Malay peninsula.

Helps. — Describe the surface of southeast Asia. Look at the map on page 107 and tell what you can about the Mekong river.

In what zone is the peninsula of southeast Asia? Name some of the products. Which part of southeast Asia is held by the French nation? Where is Anam? — Siam? What is said about the people of Siam? What is the chief food?

Where is the Malay peninsula? Where are the Straits Settlements? Tell what you can about Singapore.

To what race do most of the people of southeast Asia belong? What race is in the Malay peninsula?

95. The East Indies *Ref. Java*

The islands southeast of India are called the East Indies. The largest are Borneo, Sumatra and Java. Most of the people belong to the brown race.

The East Indies are in the torrid zone. The soil is rich and there is plenty of rain. The brown people raise many kinds of spice. Here are trees that yield clove buds, and others that yield nutmegs. Here are pepper berries and sweet cinnamon bark. Here also are the plants that supply ginger root.

These islands send coffee and sugar to many countries. They also have large fields of rice and tobacco. Perhaps the bamboo

poles we use for fishing were cut in these far-off islands.

Java is the richest of the islands. Coffee, tea, sugar, rice, tobacco and spices are its principal products. Many kinds of fruit grow in the island. Java has nearly one third as many people as the United States. Nearly all belong to the brown race.

Sumatra and Java have many volcanoes. Sumatra has few people for so large an island. Its products are like those of Java.

Borneo is one of the largest islands in the world.

Java, Sumatra and the Celebes or "spice islands" belong to the Dutch, or people of Holland. Part of Borneo is held by the Dutch and part by the British nation.

Helps. — Where are the East Indies? Name three of the islands. To what race do most of the natives belong? In what zone are these islands? Which is the richest



Man of Sumatra



Village on the Mekong river

island of the group? Name the chief products of Java. How many people live in Java?

What can you say about Sumatra? Name some islands held by the Dutch. What nations in Europe claim Borneo?



Mayón, an active volcano in Luzon. The peak is 7921 feet high

96. Philippine islands *Feb 24*

The Philippine islands are under the care of the United States. This group of islands lies far across the Pacific ocean, southeast of Asia.

The raised map gives the names of the islands and shows the mountains, valleys and rivers. The islands were largely built by volcanoes. There are several active peaks, one of which is shown in the picture above.

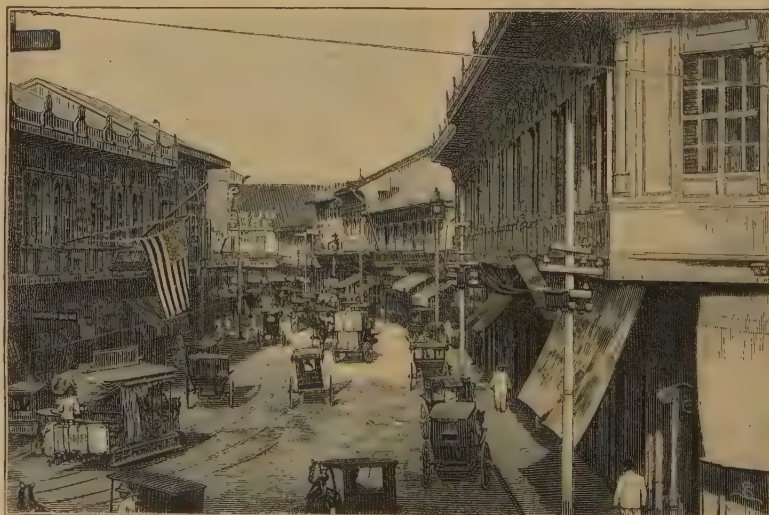
The ranges run mostly north and

south. There are many valleys, slopes and plains with very deep and rich soil.

These islands are in the torrid zone. There is no winter, but there is a dry season and a rainy season.

The rains are heavy, and lakes, rivers and small streams abound.

Tobacco, sugar and hemp are leading products. The hemp is a fiber used for making rope and twine. It is called Manila hemp because most of it is shipped from the city of Manila.

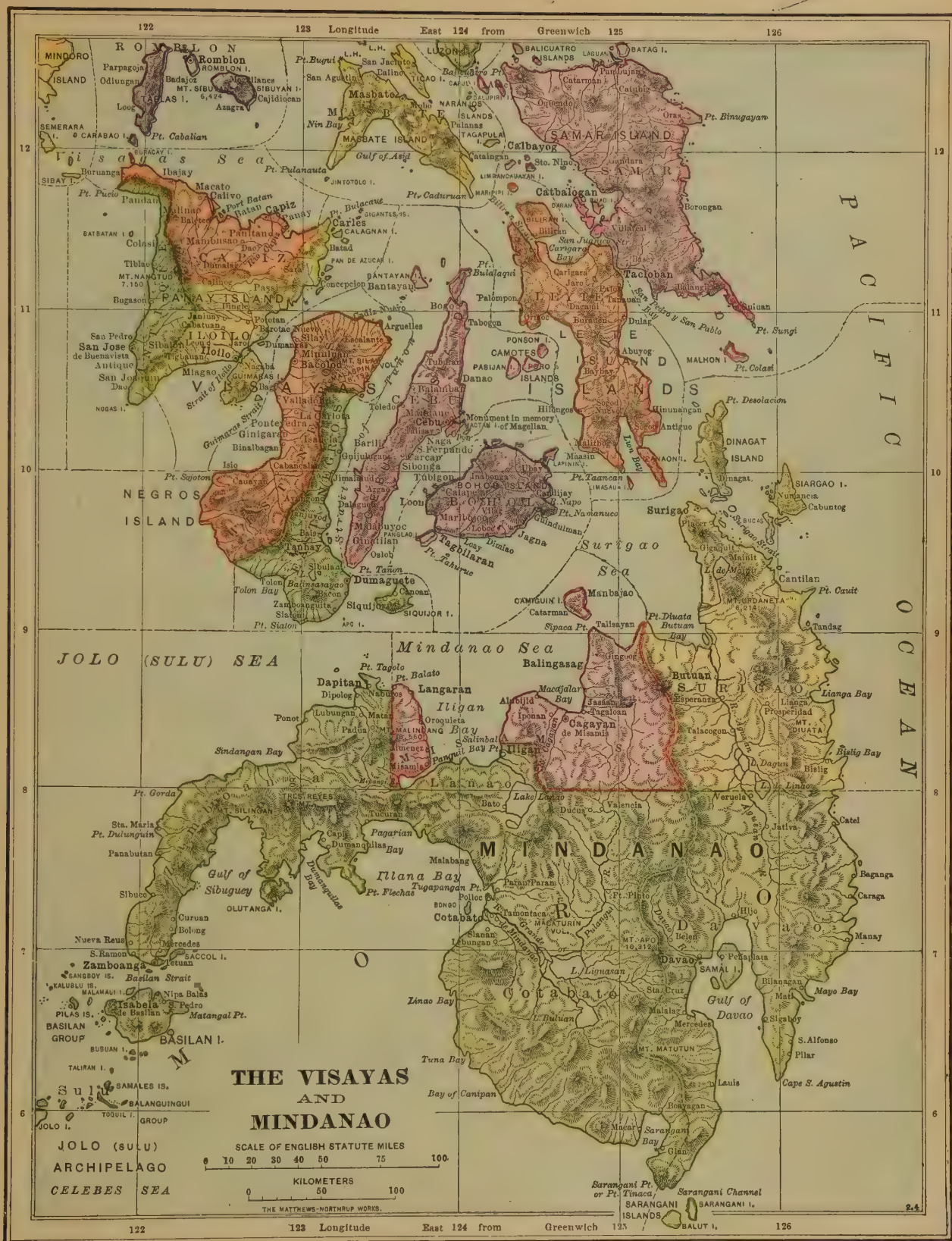


The main business street in Manila



RELIEF MAP OF THE PHILIPPINE ISLANDS





This is not true hemp, but is the fiber of a kind of banana plant.

Large crops of rice furnish food for many people. Fruits grow wild all over the islands.

The tame buffalo is the most useful animal. This is not like the bison of our country. The buffalo is used to draw rude plows and carts, as well as to carry loads on its back.

Monkeys, huge bats, birds, snakes and insects abound.

The earliest people in these islands may have been the *Negritos*, a dwarfish black race



Houses in a grove of cocoanut trees



Negrito boy



Filipino girl

now found mostly in the mountains. They were long ago hunted from the lowlands by stronger people of the brown race.

The Negritos wander over the ranges and through the forests. They eat wild fruits and sleep where they may be when night comes on.

Nearly all the people belong to the brown race. They have cities and towns, with schools. In most of the cities and towns there are some white people and Chinese.

Manila is the capital and largest city. It is on a large harbor. Most of the foreign trade is carried on in this city. It is on the island of Luzon.

Iloilo is the second port in size. It has a large trade in sugar.

Helps. — Where are the Philippine islands? How were the islands mostly built? Look at the raised map and tell all you can about the islands.

In which zone are these islands? Why are there so many streams? Tell what you can about the climate.

Name the leading products. What is said about hemp? Name a food product.

Name the best work animal of these islands. What kind of work does it do?

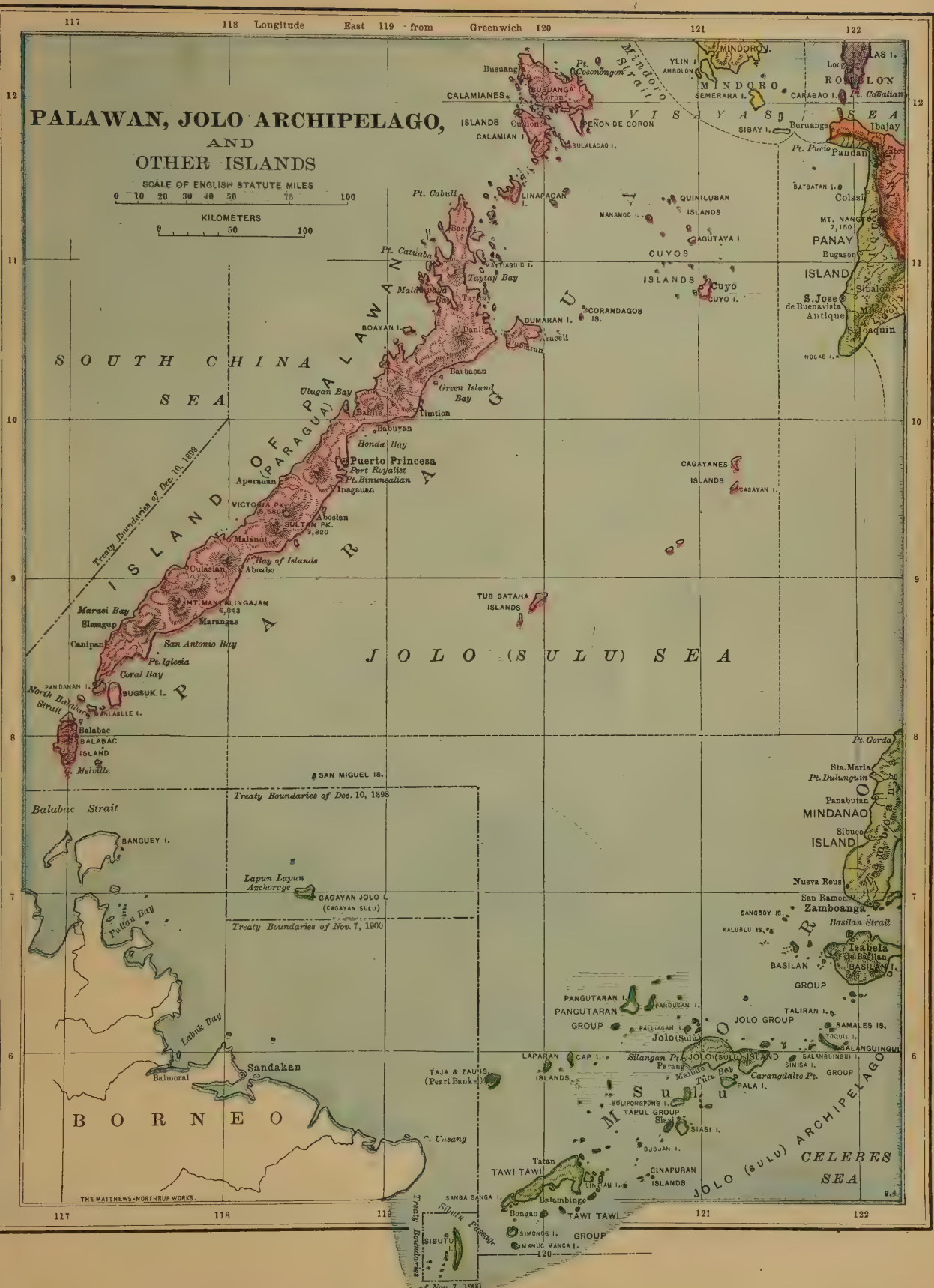
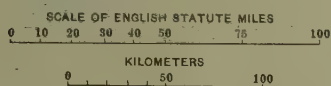
Who are the Negritos? Tell what you can about them. To what race do most of the people on these islands belong? What other people live there?

Name the largest seaport of these islands. On which island is it? Name another port. What does it export?



A group of Moro girls in the island of Jolo

PALAWAN, JOLO ARCHIPELAGO, AND OTHER ISLANDS



97. Empire of India

India is south of Tibet. The Ganges is the main river of India. This river rises in the highland of Tibet. The Brahmaputra also rises in Tibet and flows to join the Ganges. These rivers are making a great delta.

Half the year there is but little rain. The other half has plenty of rain. In fact, so much rain falls that the air is damp a large part of the time. The heat and dampness make trees and smaller plants grow very fast. They form dense jungles in which many wild beasts live.



The Himalaya mountains

The Indus river flows across the west side of India. This river also is making a delta, but not so large as that of the Ganges.

Long ago people used to go from Europe to trade with the dark-skinned people in the valley of the *Indus*. It is easy to see why these people came to be called Hindus (or Hindoos), and they keep the same name to-day. The country is called India.

Columbus was trying to reach India when he discovered America. He thought the red men lived in India, and he called them *Indians*.

The great rivers of India often overflow their banks. The water then spreads out for several miles. Fine mud settles on the land, and thus new soil is given to the plants.

A large part of India is in the torrid zone. The northern part is only a little outside of this zone. The seasons are hot all the year.



Tundras of Siberia. Ganges river scene in India

One fifth of all the people in the world live in India. This shows that the soil is very rich, as the people must have food.

Rice and wheat are leading crops. There are many fruits and spices.

Helps.—Where is India? What is said about the Ganges?—about its largest branch?—about the Indus river? How do parts of the plains of India receive new soil?

In what zone is India? What is said about heat and rain? How many people live in India? What does this prove about the soil? Name some food plants of India.



The opium poppy grows in India and other warm parts of southeast Asia.

Opium is made from the buds of poppy plants. The buds are cut open and the juice comes out. This juice is made into medicines and drugs.



A village near the Ganges

Many people of southeast Asia smoke opium. It does them great harm. The Chinese spend for opium as much money as they get for all the tea they sell to other countries.

India produces cotton and has many mills for making cotton cloth. Cotton fiber is also shipped to the mills in the British Isles. The British people send back cotton cloth to India.

Ceylon is noted for tea. This island also sells cinnamon and other spices.

Most of the trade of India is with the British and Chinese people. The British nation rules over India. There are many native kings, but the British ruler is over all. India is part of the British empire.

Calcutta and Bombay are the chief ports of India. Calcutta is in the delta of the Ganges. This great port ships many of the products

of India. Some of them are floated down the Ganges to Calcutta. Others are carried there on railroads or on wagons. At the port they are put aboard ocean steamers and sent to England or other countries.

No large river flows to Bombay, but railroads from many parts of India run to it. This port is on the west coast. Bombay is a noted cotton market.

Madras is a large port of southern India.

Delhi is the capital of India.

Most of the natives of India are Hindus. They belong to the white race, but their skin is dark. The Hindus have many temples noted for their beauty. Some of them are built along the banks of the Ganges.

Helps. — Tell what you can about the poppy plant.

What is said about cotton and cotton mills? Can you think why the people of India need so much cotton cloth? From what nation do they buy much of it? Name some products of Ceylon. What and where is Ceylon?

Of what empire is India a part? What is the capital of

India? Where is it? How are products sent to the great port of Calcutta? How are they sent to the great port on the west coast of India? What is the name of the west coast port? For what is Bombay noted? Where is Madras?

To what race do the Hindus belong? What is said about them?



Turkish children studying the Koran

98. Southwest Asia

Turkey and Arabia are in southwest Asia. Here also are Persia and a few smaller countries.

Southwest Asia is mostly high land, but it is not nearly so high as Tibet.

Only a little rain falls in this part of Asia. The land is dry. Large parts of it are deserts, but there are some fertile river valleys.

Nearly all the people of southwest Asia belong to the white race. They send wool, skins and hides to many parts of the earth. Many dates and figs are also shipped.

The people have flocks



A Georgian of Tiflis



of PERSIA of sheep and make beautiful carpets and rugs.



Petroleum wells near Baku

They make them by hand, but with great care. Teheran is their chief city.

Between Persia and India lies the small country of AFGHANISTAN.

ARABIA is dry, but has some grassy valleys. This land is noted for its horses and camels.

TURKEY. The old city of Jerusalem is famous in Bible history. Near Jerusalem is a salt lake called the Dead sea. The river Jordan flows into it, but no stream flows out. The water is ten times saltier than the ocean. The Dead sea is below the level of the ocean. This sea and the city of Jerusalem are in Turkey, but this part of the country is better known as Palestine.

The little town of Bethlehem was the birthplace of Christ, the founder of the Christian religion. This town is a little south of Jerusalem.

Smyrna is the largest port of Turkey. It is on an arm of the Mediterranean sea. The coffee port of Mocha is on the Red sea. The coast of this sea is noted for coffee.

The Euphrates river in Turkey is famous in history. Its waters flow to the Persian gulf.

Helps. — Name three countries of southwest Asia. What is said about the surface of this part of Asia? What is said about rain in southwest Asia?



Armenian



Caucasus natives

Which parts of these lands are fertile? Where do the rivers get most of their water? To what race do most of the people belong?

Name some products of southwest Asia. What country makes fine rugs and carpets? What is the chief city of Persia? Name two countries between Persia and India. Where is Arabia? For what is it noted?

Name a city famous in Bible history. What salt lake is near Jerusalem? What river flows into the Dead sea? What is said about the level of this sea?

In what part of Turkey is Jerusalem? In what city was Christ born? Where is Bethlehem?—Smyrna? What is said about Mocha? What is said about the Euphrates river? To what gulf does it send its waters?



Arabs and their camels resting in the desert

99. Siberia

SIBERIA crosses northern Asia. Most of it is a plain. Its southern part has many mountains in the Atlas and Tien Shan chains. The Stanovoi range is in south-east Siberia on the north side of the Amur river valley.

The long Ob, Yenisei and Lena rivers flow from the mountains northward to the Arctic coast. Their mouths are in the frigid zone.

Northern Siberia is very cold. The plains near the Arctic shore are frozen and treeless. South of the frozen plains are large forests. They cross both Asia and Europe. Many animals with thick fur live in the forests.

Wheat and rye are raised in the warmer parts of Siberia. There are also wide grassy plains where many cattle and sheep graze.

The native tribes of Siberia belong to the yellow race. Many white people from Russia have moved into the best lands and built towns and cities. Siberia belongs to the Russian empire.

A railroad has been built to connect Russia with the Pacific coast. It passes through the



Children of Korea

Siberian city of Irkutsk. This road carries tea and silks from China. It gathers up wheat and furs along its route.

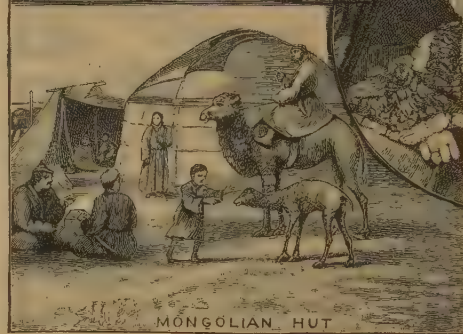
Southwest of Siberia is the dry inland region of central Asia. It is east of the Caspian

sea and spreads round the sea of Aral. Part of it is TURKESTAN. Rain and melting snow from the high ranges northwest of Tibet feed

rivers that carry water to large areas of this dry region and turn the deserts into grain fields. Russia controls most of the region.

Tashkend is the chief center of trade. It is the largest city held by Russia in Asia.

Not many years ago long camel trains brought out goods



from this inland region, but it is now reached by a railroad. Many camels still carry freight from town to town and even down to the coast.

Helps. — Where is Siberia? Which part of Siberia is a plain? Which part is high land? Name two mountain chains on the south. Name one in the southeast. To what ocean do most of its rivers flow? Name three of them. Look at the map and tell what you can about the Amur river.

Tell what you can about the plain near the Arctic coast. What is south of the frozen plains? What is said about the animals of Siberia?

What grains are raised in the warmer parts of Siberia?

To what race do the native tribes belong? From what country did the white people of Siberia come? To what empire does Siberia belong?

What is said about the railroad in Siberia? Name some kinds of freight it carries. Name a city of Siberia.

Where is Turkestan? Name its chief city. How are goods now brought from it to the seacoast? What is said about central Asia? Name a sea east of the Caspian.

AFRICA

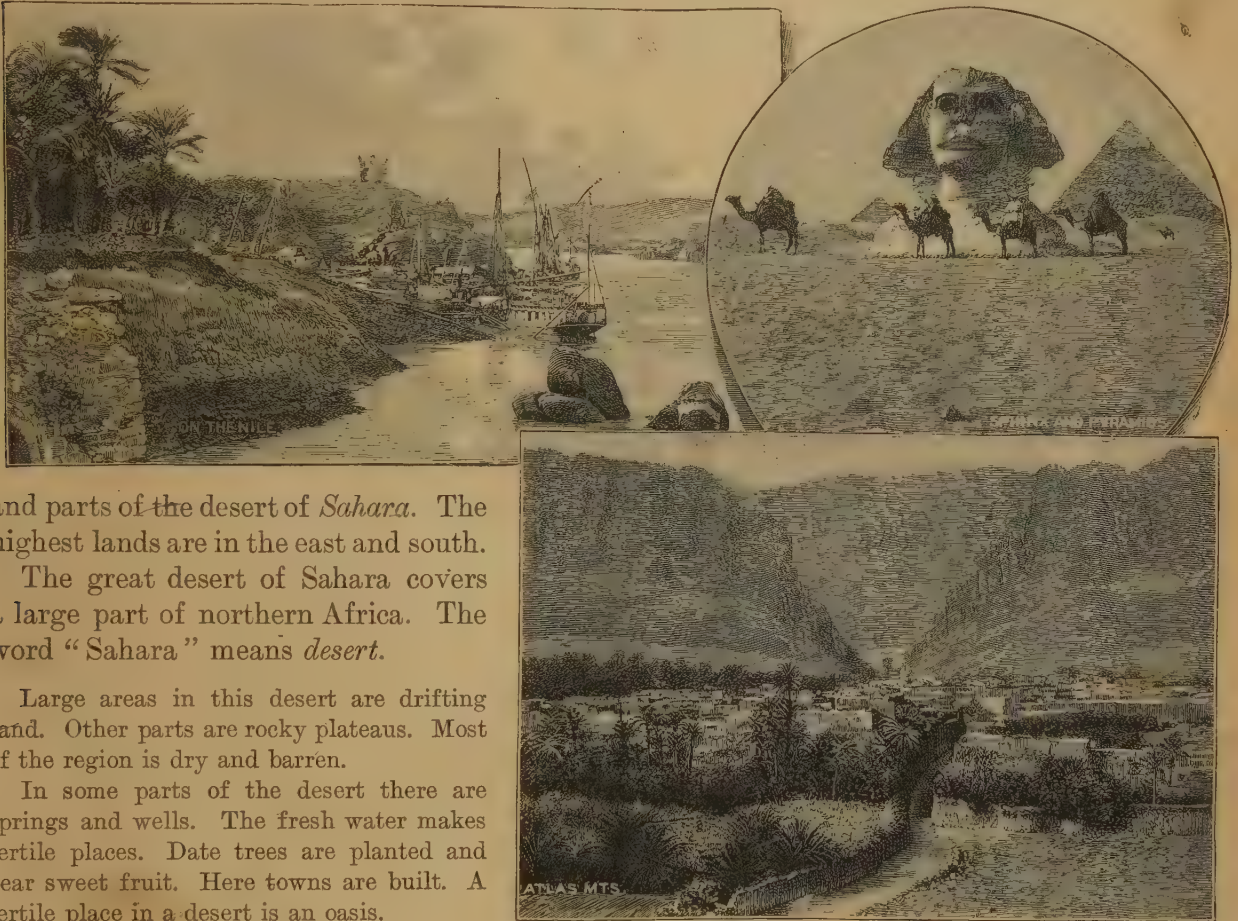
100. Northern Africa

Africa has only a few bays. Its large rivers have falls and rapids. Thus ocean steamships cannot go far in to bring out products. The greater part of Africa is a vast plateau. We may call it the *African plateau*. It includes most of the continent, except the coast region

Sudan is the home of the Negro or black race. These people have built many large towns. They trade with nations north of the desert.

Camels, bearing heavy loads on their backs, cross the desert. Some carry ostrich feathers and ivory tusks of elephants. Others carry salt and various gums. Some of the gums are used in making varnish.

Many camels and horses are raised in Sudan. The largest river of Sudan is the Niger. You can



and parts of the desert of *Sahara*. The highest lands are in the east and south.

The great desert of Sahara covers a large part of northern Africa. The word "Sahara" means *desert*.

Large areas in this desert are drifting sand. Other parts are rocky plateaus. Most of the region is dry and barren.

In some parts of the desert there are springs and wells. The fresh water makes fertile places. Date trees are planted and bear sweet fruit. Here towns are built. A fertile place in a desert is an oasis.

The Sahara is between the lands of the white and the black people. The home of the white people is north of the desert. Tribes of white people called *Arabs* live in the desert.

Sudan is the name of the land on the south side of the desert. Sudan includes several countries. The part near the desert is very dry, but farther south the lands are fertile, and have forests and fields of grain.

see on the map how it winds across the country. This river is making a great delta. The Niger rises in the Kong mountains, which are really only a rugged plateau. A better name would be Kong plateau.

Helps. — Which has the more bays, Europe or Africa? Can you tell what use bays are to a country?

Of what does the greater part of Africa consist? What does the map on page 129 show about the African plateau (see pale yellow)? Where are the highest lands? Tell what you can about the Sahara. What is an oasis?



RELIEF MAP OF AFRICA

What race lives south of this desert? What race is on the north? What name is given to the people of the desert? Name some of the things the people of the desert see.

Where is Sudan? What people live there? What is said about these people?

What animals are mostly used to cross the Sahara? Can you tell why? What do camels carry across the desert from Sudan? Name some animals raised in Sudan.

What is the largest river of Sudan? In what direction does it flow? Name a lake of Sudan.

101. Map studies

Name the ocean west of Africa; east of it. Where is the Red sea?—the Mediterranean sea?—the gulf of Guinea?

Where is Madagascar? Where are the Canary islands?—the Madeira islands? Where is the island of St. (Saint) Helena?

Where is cape Guardafui?—the cape of Good Hope?—cape Verde? The Cape Verde islands are a little west of this cape.

Where is the isthmus of Suez? What strait separates Africa from Spain? What does lesson 84 tell about the high rocky cliff not far from this strait? Where is the Mozambique channel?

Name a large river of Africa flowing to the Mediterranean sea. Into what gulf does the Niger river flow? Into what ocean does the Kongo river flow?—the Zambezi river? What large



lake sends water to the Zambezi river?

Where are the ivory, gold and slave coasts? Can you think why these names were given? Where is the desert of Kalahari?

In what zone is the greater part of Africa? What large river of Africa is crossed by the equator? What great river valley of South America is due west of the Kongo? In which part of Africa is Egypt? What long river flows through it? What mountains are in Morocco? In what country are the Snow mountains?

102. Middle and southern Africa

South of Sudan lies the great valley of the Kongo river. It is in the torrid zone and is a very hot valley. It has heavy rainfall, and parts of it are covered with forests.

Some of the branches of the Kongo flow from lakes. In the rainy season a branch flows from the long lake Tanganyika.

Nearly all of the Kongo river is on a plateau. Its lower part falls to the low plain along the coast.

Vessels from the sea cannot pass these falls, but steamers have been carried past them and placed in the river above. They go for thousands of miles on the great river system.

The Kongo valley is settled by tribes of Negroes. Most of them are savages and have not built large towns.

The black people of the Kongo valley sell palm oil and ivory tusks of elephants. White people are sent there to trade with the natives.

The natives of southern Africa belong to the black race. Many Dutch, English and Germans also have settled here.

The large island of Madagascar is held by France. It is settled by black people and brown people. There are a few white people in the coast cities. They go there to trade.

Helps. — Where is the Kongo valley? In what zone is it? By what race is it settled?

Tell what you can about the Kongo river. Why cannot steamers go up the Kongo from the sea? Why should white

men go to the trouble of carrying steamers to the upper Kongo? Name some things sold by the Kongo natives.

To what race do the natives of southern Africa belong? What white people have also settled there? Name two products of the mines of southern Africa.

What nation controls Madagascar? Why should white people wish to live in the coast cities of this island?

103. Climate and plants

Africa is the hottest of the continents. Large parts of it have no rain and are deserts. The most rain falls in the torrid zone.

The heat in the desert is very strong. There are few trees to give shade, and these are in little groups near springs or wells. The sun heats the dry sand and rocks quickly. At night the desert cools quickly and the air grows cold.

Rain falls on the mountains of Africa. Many towns are built near streams from the mountains. The Kongo valley and parts of Sudan have plenty of rain.

Date trees grow in many parts of Africa. Cocoanuts and bananas are common. Dates and cocoanuts grow on palm trees. Other kinds of palms yield oil and sago.

The richest lands of this continent are in the valley of the Nile river. Later we shall study about the Nile floods.

Helps. — What does the globe map on page 129 show about Africa? What is said about the heat of Africa? Which part of this continent has the most rain? Tell all you can about the heat in the desert.



Plant map of Africa

Why do rivers flow from mountains? Why are towns built near rivers from ranges in Africa? Which parts of Africa have plenty of rain? Name some of the products of Africa. Name some things that come from palm trees. Where are the richest lands of Africa?

104. Animals

Large manlike apes are found in Africa. They live near the equator.

The picture shows two kinds. They are strong and fierce. The gorilla is the largest. There are smaller apes and monkeys in nearly all parts of the continent.

The Sahara is the home of many camels. The African camel has only one hump of fat on its back.

The milk and flesh of the camel are used for food. The hair is made into cloth and paint brushes. To the people of the desert this animal is as useful as both the cow and horse are to us.

Elephants live in parts of Africa. They feed on branches and grass. The people kill many of them for the valuable ivory of which their long tusks are made. Another great beast is the hippopotamus. This word means "river horse." Of course it is not a horse, but it is very large and is often seen in rivers and swamps.

The rhinoceros lives in the dense jungles of tropical Africa. This word means "horn-nosed." Can you tell why this name was given?

The picture shows two kinds of buffaloes. They are very useful to man in his work. One kind is found in the Nile valley and the

other in the southern part of the continent. The latter is called the "cape buffalo."

Giraffes are found in a few places. They have long necks and can reach high branches. The lion is found in Africa. This is called the "king of beasts." It belongs to the cat family. The lion can kill the buffalo.

The picture shows a zebra. It looks like a small horse with stripes on its sides. The zebra belongs to the horse family, but is hard to tame and is of little use to man.

The gnu or "horned horse" is not a horse, but is in some ways like both the deer and the goat.

The ostrich is found in Africa. This is the largest bird on the earth. It runs but cannot fly. Its feathers are very pretty. We call a long fluffy feather a *plume*.

Many cattle and sheep have been taken to Africa by white people.

There is a kind of fly in Africa that stings and kills many cattle. In districts where this fly abounds it is very hard to raise cattle. This little insect is the tsetse fly. It looks like a bee.

Helps. — What does the lesson say about apes and monkeys? In what part of Africa are camels found? Tell all you can about camels.

What do elephants feed on? Could an elephant drink if he had no trunk? Of what are elephants' tusks made? What is said about the hippopotamus? — the rhinoceros?

What horned animals of Africa help man in his work? Can you think why giraffes need long necks? Tell what you can about lions; zebras; ostriches.

What useful animals has man taken to Africa?





105. Egypt

The lower part of the valley of the Nile is in Egypt. This valley is only a few miles wide, but is very fertile. Every summer the river overflows its banks. Then new soil settles on the plains along the river.



flow from the high mountains in Abyssinia to swell the southern part of the Nile. Part of its water comes from the great lake Victoria, under the equator.

Day after day the river rises and creeps over its banks. It covers the fields and looks like a long lake. Then as the water flows off the river becomes smaller.

The water leaves a thin coating of soil over the fields, and the land is ready for seeds. The soil is damp and grains grow quickly.

In many places water is led in long ditches over the land. Two great dams have been built across the river, to hold back water for the dry months.

The chief food crop of Egypt is grain. There are also great fields of sugar cane

and cotton. England buys most of the cotton and sells cloth to Egypt.

Cairo, the capital, is near the upper part of the great delta and is the largest city in Africa.

Alexandria is the largest seaport of the continent.



Boy of Egypt (above). Buffalo of Egypt



Bedouins or desert Arabs

The Nile has built a great delta. This delta and the plains along the river are the home of millions of people. They belong to the white race. Many are Arabs. The Arabs

The Suez canal is in Egypt. What two seas does this canal unite? The town of Suez is at one end of the canal and Port Said at the other.

Before this canal was dug ships going from Europe to India and China went round the cape of Good Hope.

Helps. — Where is Egypt? What river valley is partly in this country? To what race do the people of Egypt belong? Tell all you can about the river Nile.

In what part of Africa is the country of Abyssinia? Name a lake that gives water to the Nile. Name the chief crops of Egypt. What and where is the capital? What is the leading seaport?

What is said about the towns of Suez and Port Said?



Two views of the Suez Canal

of the desert are often called Bedouins.

The water in the Nile comes from lakes and mountain streams in the torrid zone. During the hot rainy season in that zone hundreds of muddy branches



106. Other countries of Africa

There are several small countries in northern Africa.

TRIPOLI is west of Egypt.

TUNIS is still farther west.

Then come ALGERIA and

MOROCCO. The French

nation controls Algeria

and Tunis. These coun-

tries have some fertile

lands, but large parts are

dry and do not produce

much. The people are

dark, but they belong to

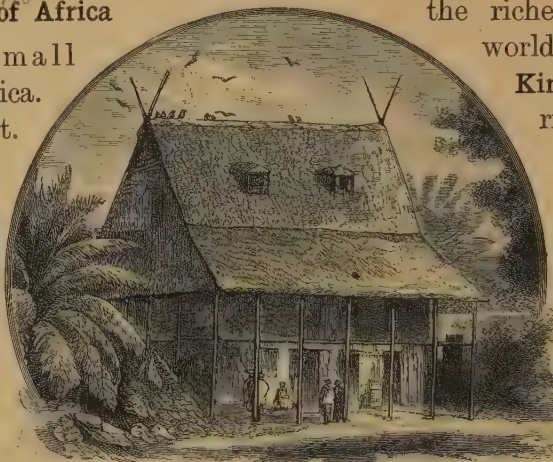
the white race. The French control also a large part of the Sahara desert and a region on the lower Kongo.

Algiers is the chief city of Algeria. Fez is the largest city of Morocco.

The nations of Europe have seized large parts of Africa. Other parts are still free.

LIBERIA is a Negro republic. It was founded by the United States as a home for former slaves. Monrovia, the capital, was named for a former president of this country.

—UNION OF SOUTH AFRICA. The British people control the provinces of Cape of Good Hope, Natal, Orange Free State and the Transvaal. Together these form the Union of South Africa.



House in Madagascar

the richest diamond mines in the world. They are near the city of **Kimberley**. Transvaal has the richest gold mines. **Johannesburg** is the chief mining center.

Many cattle, sheep and ostriches are raised in South Africa. Wheat grows on some of the farms.

Pretoria is the capital of the Union of South Africa. The lawmaking body meets in **Cape Town**, the chief port of all South

Africa. This city exports gold, diamonds, wheat, wool, beef and feathers.

Helps.—Name four countries of northern Africa. Which of these is farthest west? What strait lies between it and Spain?

What race of people is found in these northern countries of Africa? What is said about the products?

The names on the colored map will tell what nations have seized parts of Africa. Where is French Equatorial Africa?—German East Africa?—German Southwest Africa?—Mozambique, or Portuguese East Africa?—Angola, or Portuguese West Africa?—Upper Guinea?—Lower



Zulu chief

Guinea? Name two countries in Africa held by France. What is said about Liberia and its capital?

Name four provinces of South Africa held by the British. To what race do the natives of South Africa belong? Name some of the products.

Where are the diamond mines? Near what city are the richest gold mines? Where is Pretoria?—Cape Town? What is said about each? Locate Zanzibar.



The natives belong to the black race, but many white people have gone there from Europe.

South Africa has



Low and high Nile

AUSTRALIA AND PACIFIC ISLANDS

107. People

Mar

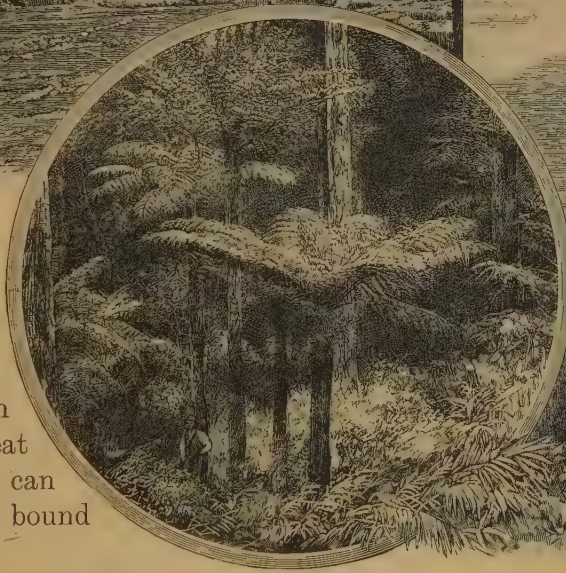
White people first went to Australia many years ago. They found the land settled by black people. These natives were savages of a very low class. A few thousand black people

The islands of New Zealand are southeast of Australia. The natives of these islands are brown people. They are called Maoris. They are brave and they fought hard to prevent white people from seizing their land. But the British hold the islands, and many white people have settled on them.

Most of the people on the Pacific islands belong to the brown



Hot springs,
New Zealand



Tree
ferns



Blue mountains,
Australia

still live there. They get their food partly by hunting with the boomerang, a curved stick which they throw with great force. The natives can make the boomerang bound back to them.

Nearly all the white settlers were from the British Isles. The land is now divided into British states.

New Guinea is north of Australia. Its natives belong to the black race. Those of the interior are savage. Some of them wear the hair in the form of a large frizzly ball. A few white people live in towns near the coast.

There are not quite so many people in Australia as in the city of New York.

race. Many of them are very skillful in the use of the canoe. A few savage black people are found in some of the islands.

Helps. — Tell what you can about the native people of Australia. Where did most of the white people of this continent come from? What are the divisions of Australia called? What is the capital of Australia?

Where is New Guinea? Tell what you can about its people. Where is New Zealand? What nation holds these islands? To what race do the natives belong?

What is said about the people of the Pacific islands?



Relief map of Australia

108. Map studies

In what direction is Australia from Asia? What oceans border on Australia?

Name three large islands of the East Indies lying between Australia and Asia. Where is New Guinea? Where is New Zealand? Where is Tasmania?

What does the relief map show about the surface of Australia? Where are its highest mountains? — its longest rivers? Which is the more broken, the coast of Europe or that of Australia?

In which part of Australia is the Murray river? In



which zone is the northern part of Australia? — the southern part?

109. Plants and animals

Australia is south of the equator. Part of it is in the torrid zone.

Most of the rain winds are from the southeast, and the rain falls on the slopes of the high ranges near the seacoast. These rains feed the Murray and Darling rivers. Many small rivers flow to the southeast coast,



Helps.— In what zones is Australia? Where do most of the rains fall? Name two large rivers of this continent.

What is said about rains in the middle of the continent? What part of Australia has forests? Where are the best grain lands?

What is said about sheep and cattle? Name two animal products.

What is said about the echidna? — about the duck mole? — about the kangaroo? — about Australian birds?

Yell on Monmar 14
110. States of Australia

Australia is the smallest of the continents. Asia is nearly six times as large.

The map shows many ranges in Australia, but most of them are only hills. The main range lies along the southeast coast. The Alps and the Blue mountains are the highest.

but the slope is short and the rivers are of little use, except the parts near the sea.

The middle lands of this continent are very dry and some parts are deserts.

Forests cover the mountains in the southeast. The narrow plains between the ranges and the sea have fine soil for wheat and corn.

The white people have carried many cattle and sheep to Australia. The feed and climate suit them well.

Wool and hides are valuable exports from Australia.

This land has many queer animals. The echidna lays eggs but is not a bird. It has a long nose and sticky tongue and feeds on ants. Sharp spines grow all over its body.

The duck mole¹ also lays eggs. It has a wide bill like that of a duck and catches bugs in the water.

The kangaroo has small fore legs but strong hind legs. It runs by making long leaps. A kind of leather is made from kangaroo skins.

Australia has many birds. The emu is a large running bird. In some ways it is like the ostrich. The lyre bird has a tail that looks like a harp or lyre. This continent has none of the wild animals that we studied in Asia and Africa.



Plant map of Australia



Animal map of Australia

¹ Also called ornithorhynchus.

and cattle are other products. Most of the trade is with England.

Melbourne is the chief port of Australia. It has a fine harbor.

Sydney is the port of New South Wales.

QUEENSLAND has good grazing lands. **WESTERN** and **SOUTH AUSTRALIA** are dry and thinly settled.

know how to make good use of the fertile soil of the island.

THE FIJI ISLANDS are far east of Australia. Most of them were made by volcanoes. The Fiji people are savages. A few white men have settled on some of the islands.

THE TONGA ISLANDS are southeast of the Fiji group. The white people have



Eucalyptus

Black natives
of Australia

Woman of Samoa

Natives of Solomon islands

The island of **TASMANIA** is a state.

Helps. — Which is the largest continent? — the smallest? Which is most like Australia in form?

What does the relief map show about the surface of Australia? What is said about the ranges? — about the inland plain? — about the most fertile river valley? Name two products of this valley.

What are the two leading states? What is taken from their mines? Name some other products. What country has most of the trade of Australia?

What is the leading port of Australia? In which state is it? In what state is Sydney?

Where is Queensland? What is said about it? Name three other states of Australia. Where is Tasmania?

111. Pacific islands

NEW ZEALAND has rich gold mines. The grassy slopes support many sheep and cattle.

The British nation controls these islands and their trade. Gold, wool and meats are the chief exports.

Auckland is the largest city of New Zealand.

NEW GUINEA is a very large island. Most of its people are black savages. They do not

taught many of the Tonga natives how to read.

THE SAMOA ISLANDS are northeast of the Fiji group. The Samoans are very skillful in the use of canoes.

Some of the islands in the Pacific are the tops of volcanoes. Others are built of coral. The Samoa islands are mostly the tops and slopes of volcanoes. The small islands of the Caroline, Marshall and Gilbert groups are mostly coral.

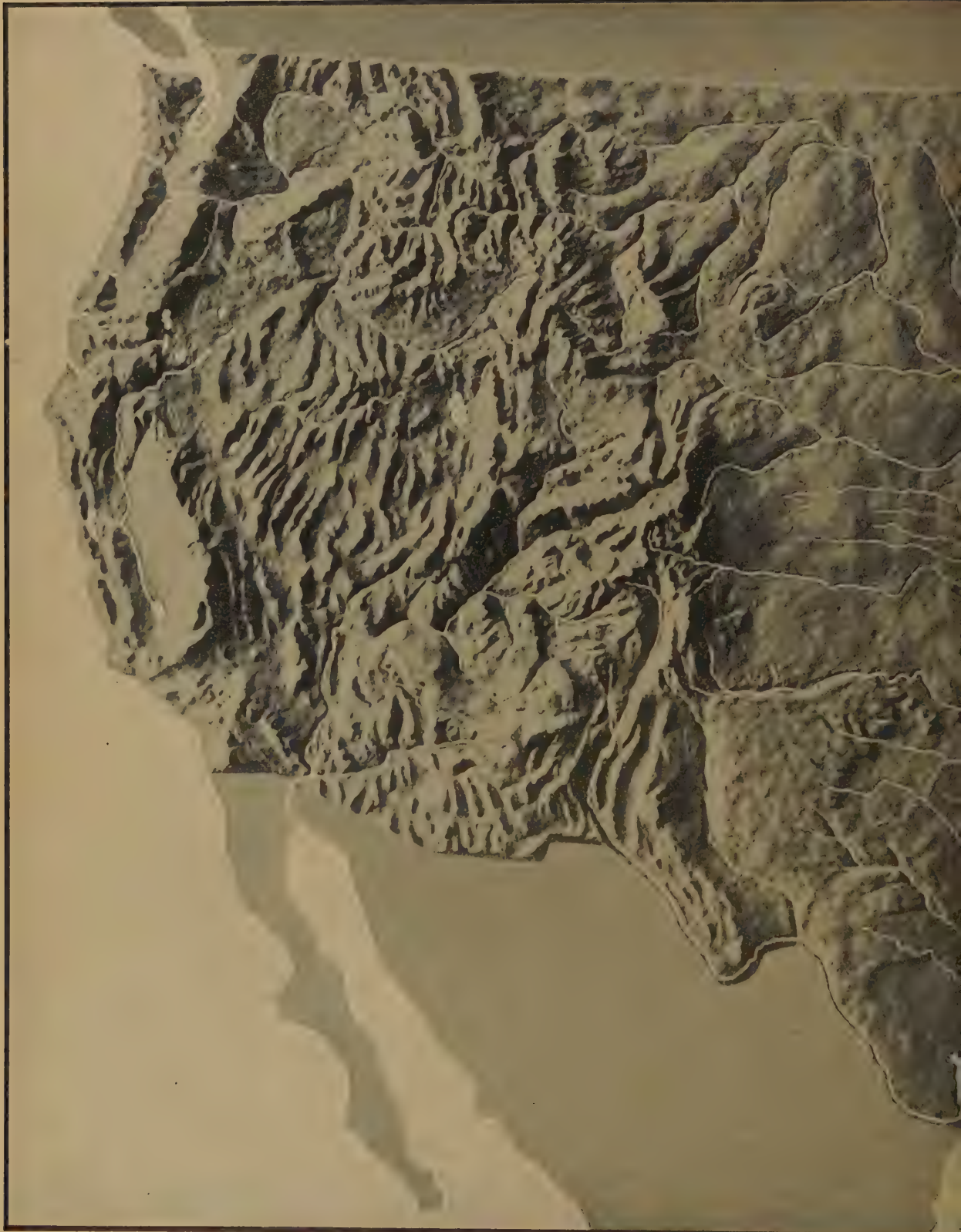
Several other Pacific islands, besides those we have studied, belong to the United States. Two of these are in the Samoa group and one is in the Ladrões, far out in the ocean.

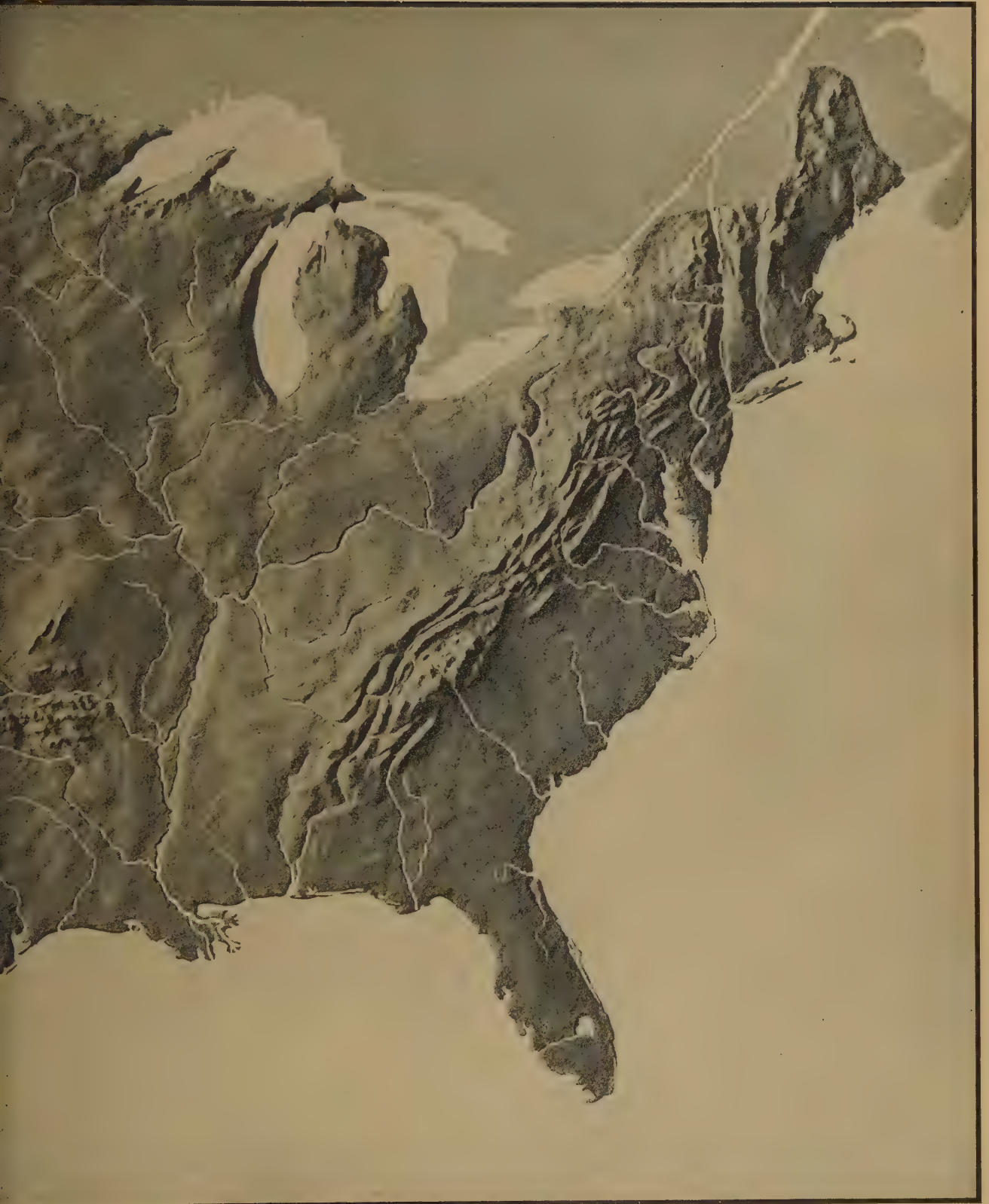
Helps. — Where is New Zealand? Name a product of the mines of the islands. Name two other products. What nation controls New Zealand? What is the largest city?

Where is New Guinea? What is said about its people? What does the lesson tell about the Tonga islands? — about the Samoa islands?

Tell how some of the Pacific islands were made.









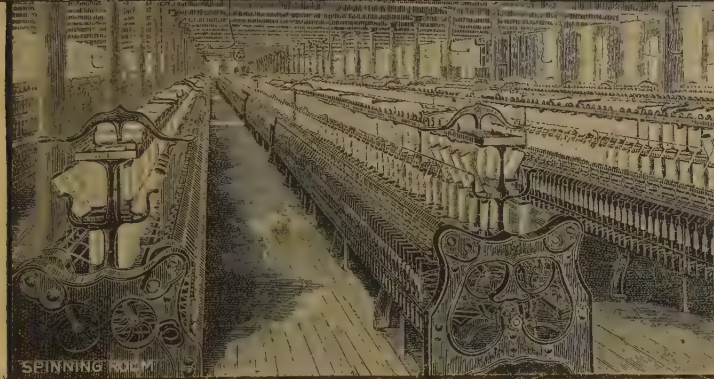
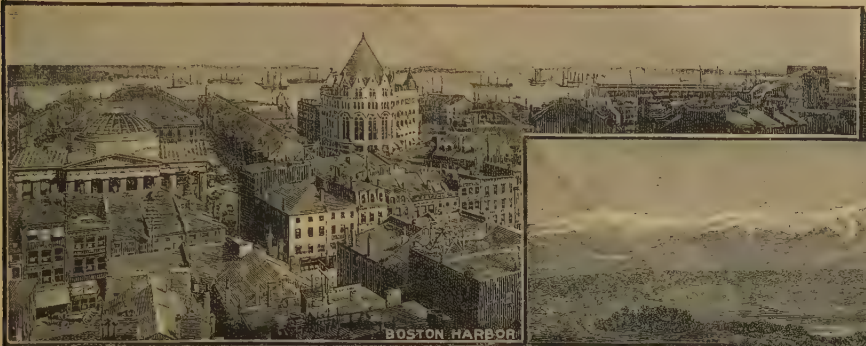
Apr 21
Mar 15 GROUPS OF STATES

112. New England states

The New England states are east of New York state. They are in the northeast corner of the country. They have plenty of rain. The summers are hot and the winters cold.

Quarries in these states yield fine marble and granite. Many fishing vessels sail from Gloucester and other ports of New England.

MASSACHUSETTS. Boston is the capital of Massachusetts. It is the largest city in New



England. Its harbor is wide and deep. This city is one of the chief ports of the country. Many products from the West pass through this port to Europe.

Many cities and towns in these states have great mills and factories. Much of the cotton and wool used in them goes through Boston. Many hides also pass through on the way to shoe factories. This great city helps to ship away the many kinds of goods made in these states.

New England is hilly land. Most of its soil is poor, but its rivers are swift and turn wheels for many mills. Years ago the wheels were turned wholly by water, but now steam is used also. These states lead in making cotton and woolen cloth. They are also first in making boots and shoes. The many workshops produce nearly all kinds of tools.

There are soft-wood forests in the northern row of states. Some of the wood is ground to pulp and made into paper. The largest paper mills in the country are here.

Boston handles more wool than any other city in the country. It is also the greatest boot and shoe market in the world.

Helps. — Where are the New England states? What kind of climate have they?

Can you tell why more New England people work in shops than on farms? Name four products in which these states take the lead.

What is said about paper and paper mills? Name two kinds of building stone found in New England. Name a fishing port. Find it on the map.

Where is Boston? What is said of its size? — its harbor? Name some goods that pass through this port. How does Boston rank as a wool market? — as a boot and shoe market?





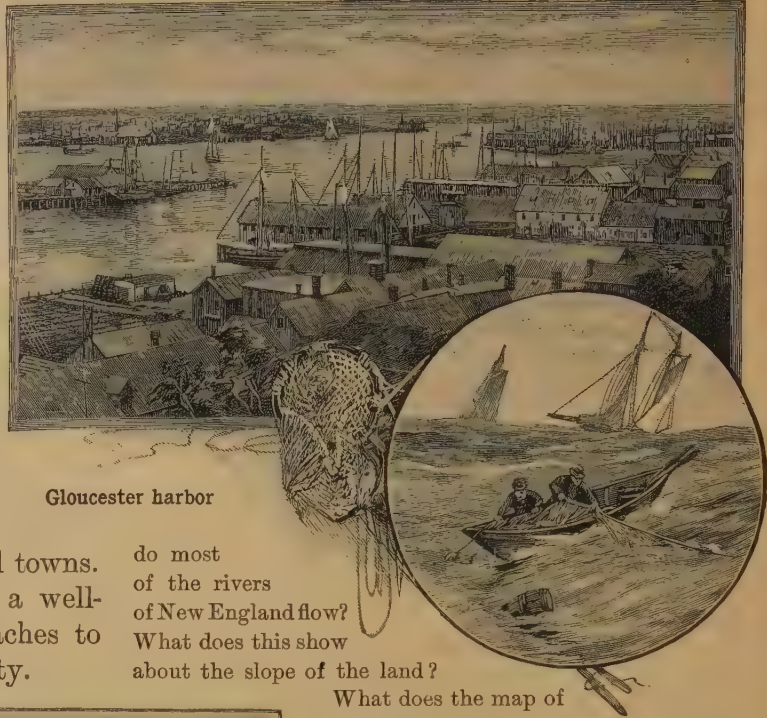
Boston and its suburbs have been the homes of many famous poets and authors.

Worcester is the second city in size in this state. It is a railroad center.

Fall River, New Bedford and Lowell have good water power and make more cotton cloth than any other cities in America. **Cambridge** is the seat of Harvard University. **Plymouth** is noted as the landing place of the Pilgrims.

MAINE. This is the most easterly state in the Union. Most of its people live in the southern half. **Portland** is the chief port and largest city. It supplies goods to mills in many cities and towns.

Augusta is the capital. **Bangor** is a well-known lumber market. The tide reaches to Bangor and ships can sail up to the city.



Gloucester harbor

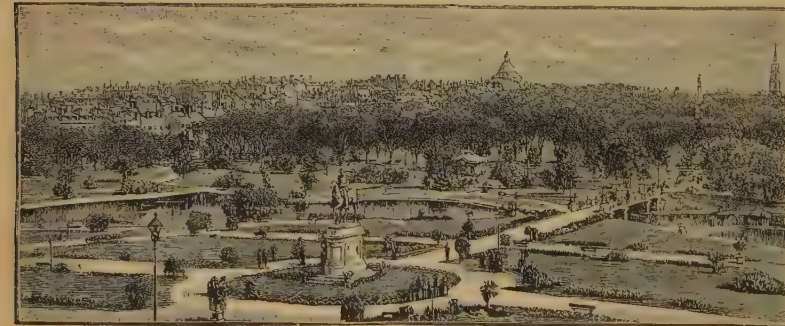
do most
of the rivers
of New England flow?
What does this show
about the slope of the land?

What does the map of
New England show about
the coast line? Where is Long Island
sound? Name two large islands south of
Massachusetts. Where is Penobscot bay?
Locate cape Cod. What large lake is west
of Vermont?

What is the second city in size in Mas-
sachusetts? What two cities lead in mak-
ing cotton cloth? For what is Cambridge
noted? — Plymouth?

Which part of Maine has the most cities
and towns? What is said about Portland?
What is the capital of Maine? What prod-
uct led to the growth of Bangor?

Where are the White mountains? Name one peak.
What is said about Manchester? Where is this city?



Public Garden, Boston

NEW HAMPSHIRE. The White mountains have many summer resorts. The highest peak is Mt. Washington. Most of the people live in the southern half of the state. They have many cloth mills.

Manchester has great cotton mills. They are built where they can use water power from the Merrimac river. The mills use also steam and electric power.

Helps.—Which of these states border on Canada?—on the Atlantic ocean? Which has no seacoast?

In what state are the White mountains? —the Green mountains? Of what highland are they a part? In what general direction



Shipbuilding, Bath



NEW ENGLAND STATES

SCALE OF MILES
0 10 20 30 40 50 60 70 80



Concord is the capital. It is near fine granite quarries. **Portsmouth** is the only seaport in the state. It has a good harbor.

VERMONT. This state is noted for its dairy products. It has fine pasture lands.

Burlington has the best harbor on lake Champlain. This port handles much of the lumber made in this lake region.

Rutland is the center of the marble industry. **Barre** is noted for its granite. **Montpelier** is the capital.



RHODE ISLAND. This is the smallest but the most



Making maple sugar in Vermont

thickly settled state in the Union. It is a region of busy workshops.

Providence is the second city in size in New England and is the capital of the state. It has the largest jewelry factories in America. This city is at the head of Narragansett bay.

Newport is a well-known summer resort.

CONNECTICUT. This state is noted for hardware and timepieces.

New Haven is one of the cities that make hardware. It is the chief railroad center and port of the state. Yale University is in this city.

Hartford is the capital. **Bridgeport** is a thriving city on Long Island sound. **Waterbury** is noted for clocks and watches.

Helps. — What is the capital of New Hampshire? What is the name of its seaport?

For what is Vermont noted? Name a port on lake Champlain. What product does it handle? What product comes from Rutland?—from Barre? What is the capital of Vermont?

What and where is the smallest state in the Union? Tell what you can about Providence. In what part of the state is Newport?

Name some products of Connecticut. Tell what you can about New Haven. What is the capital of the state? Where is Bridgeport? For what is Waterbury noted?

Start 2/10/11 page 2
113. Middle Atlantic states

Map studies. — Name the states of this group. In what part of the country are they? See the little corner map of the United States. What waters nearly separate New York state from Canada? Name two bays on the east coast.

What river flows from these states to the prairies? Where is lake Champlain?

To what highland do the mountains in these states belong? Name two groups of mountains in New York. What state is crossed by the Blue ridge? Between what two states do the Allegheny mountains run?

Between what states does the Potomac river flow?—the Delaware river? Where does the Hudson river rise? Name a river that flows into it from the west. Into what river does the Ohio flow? See map of North America.

Which of the Great Lakes border on New York state? What river flows out of lake Erie? For what is this river noted? In what state is the Erie canal?

What large island belongs to New York state? What sound is north of it? Where is Sandy Hook? Where are the Thousand Isles?

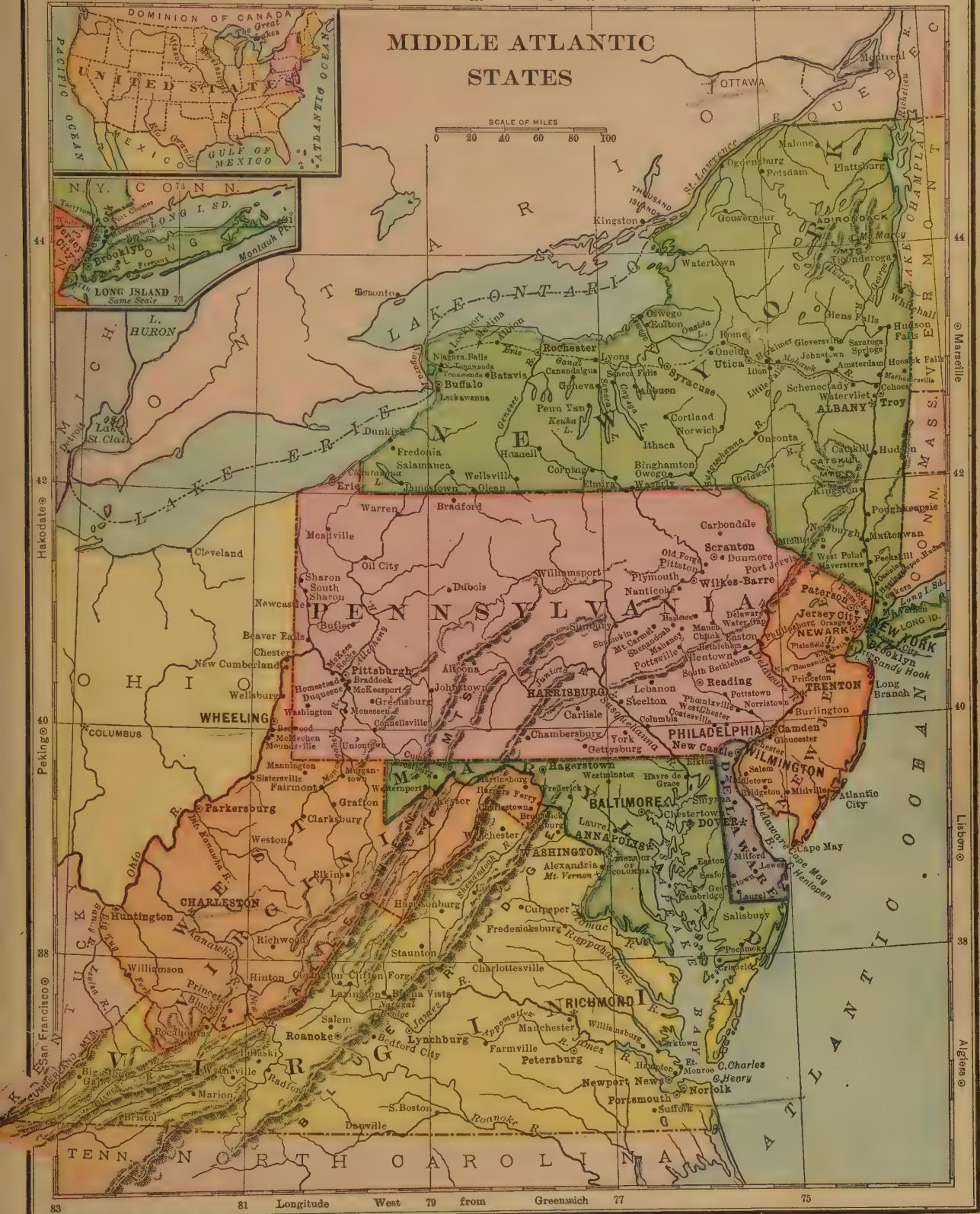
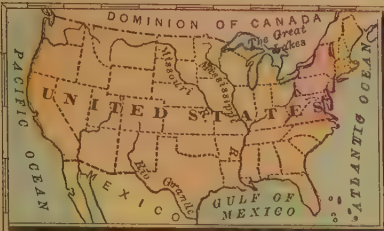
These states are near the middle of the Atlantic coast. The Eastern highland runs northeast across them. Its ranges are not very high and long valleys lie between them. Most of these valleys are fertile.

The Atlantic slope extends from the highland to the sea. The part near the coast is a plain. It is narrow near New York, but wider in the south. West of the highland the land slopes to the prairies and the Great Lakes, as is shown by the rivers on the map.

These states have plenty of rain. The winters are cold and the summers are hot.

MIDDLE ATLANTIC STATES

SCALE OF MILES
0 20 40 60 80 100



© Marselle

Lisbon

Algiers

Hakodate

Peking

San Francisco



Jersey City docks

The people raise grain and tobacco. Fruits and vegetables grow almost everywhere. The people living on the coast plain raise peaches and vegetables for the cities. There are many cattle on the farms, and many people make butter and cheese.

The mountains supply coal and some iron ore. Ore is also brought from the shore of lake Superior. These states have many oil and gas wells. The iron with all this fuel has led the people to build great mills and factories.

The prairies are west of this group of states. Many of their products are sent to Europe. First they are sent by rail or inland water routes to the eastern ports. There they are put on steamers and sent across the ocean. Many kinds of goods from Europe follow the same route back to the prairie people. The handling of all the goods gives work to many people in the seaports.

It is now easy to see what kind of work the people in these states do. They dig coal and iron in the highland. They sink deep wells and get oil and gas from the ground. They build great factories and work in them. They toil in the iron mills. They plant wheat and tobacco. They tend cattle and sheep. They raise fruits and vegetables.

They work on railroads and canals. They help to ship goods to and from the seaports. This is the most thickly settled part of the country. It is because there are so many products and so much work here.

NEW YORK. New York is the largest city in America.

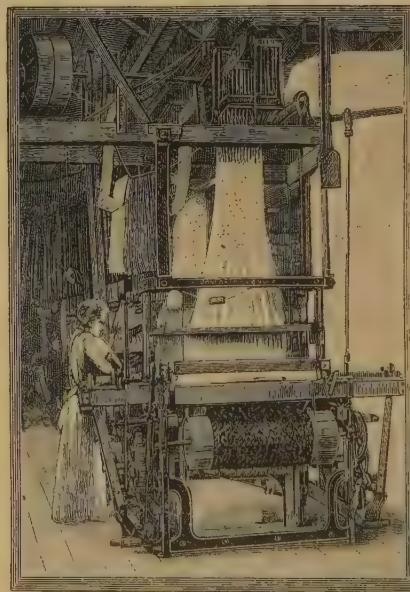


Water front, New York

It is next to the largest city in the world. It now has nearly 5,000,000 people. Part of it was once the great city of **Brooklyn**.

Find the city of **Buffalo** on the map. It is at the eastern end of lake Erie. This city handles products of all the states round the Great Lakes. Some steamers bring iron ore. Others bring copper ore. Still other ships bring grain or lumber. Cars loaded with dressed beef and pork from the prairies also run to this city.

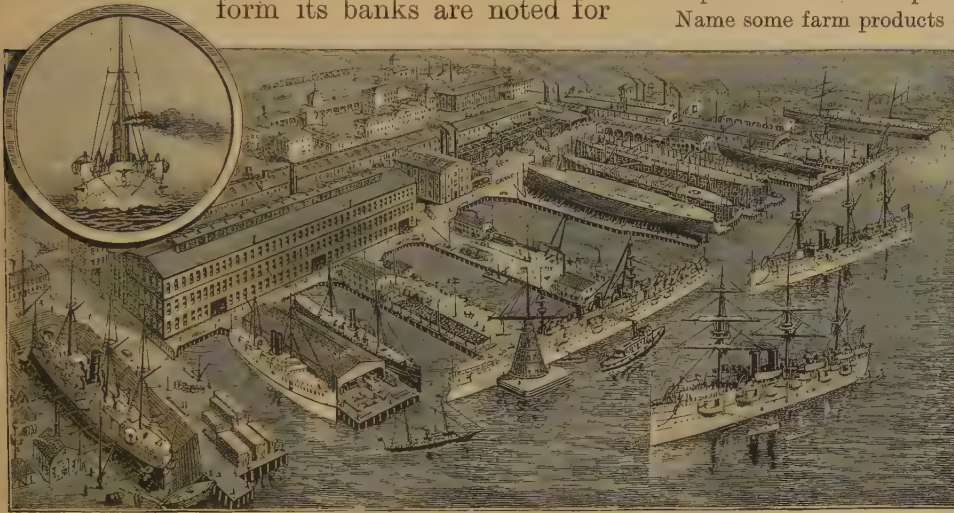
Some of these products go east by way of the Erie canal. Canal boats go from lake Erie to the Hudson river and down to New York. Railroads also follow

Silk weaving at
Paterson, New Jersey

the canal and river to the same great port. It is easy to see why New York has grown to be the largest seaport in America. It is on the best route of trade, and the largest ships can enter its deep harbor.

A city that can get raw products so easily is a good place for workshops. New York has more workshops than any other city in the New World.

This large port is at the mouth of the Hudson river. Steamboats go far up and down this river. The high cliffs or palisades that form its banks are noted for



Shipyard on the Delaware river, near Philadelphia

their beauty. The United States Military Academy at West Point is on the Hudson. Young men are here trained to be officers in the army. Farther up the river is the city of Albany. This is the capital of New York state.

Rochester and Syracuse are cities on the Erie canal route. Falls in a river supply water power for large flour mills in Rochester. Syracuse is well known for its salt works. The salt brine is pumped from deep wells, and the salt is left when the water evaporates.

PENNSYLVANIA. This state has the best hard coal mines in the country. Coal is needed to melt iron from its ore. The best iron mines are near lake Superior, and much of the ore is sent to the coal regions of

Pennsylvania. This state has the largest iron mills in the country.

Not many years ago it had the best iron mines. The fuel and iron gave the city of Philadelphia a good start in manufactures. Its mills and workshops turn out almost every kind of iron and steel goods. This city ships a large amount of coal to other places.

Helps. *48* In what direction does the Eastern highland extend? What does the text say about the ranges? What lie between the ranges?

Where is the Atlantic slope? What is said about the coast plain? Name some products of this plain.

Name some farm products of these states. Name some

of the animals. What are taken from the mines? What come from wells? Name three kinds of fuel in these states. Of what use are iron and fuel to a state?

What region lies west of these states? Name some products of the prairies. Where are many of these products sent? Can you tell how they reach Europe?

Tell all you can about the kinds of work the people in these states do. Why do so many people

live in these states? Name the largest city in America. What is said of its size? Name a great city that was joined to New York. On what island is Brooklyn?

Where is Buffalo? Name some products that pass through this city. How are they taken there? In what ways are many of the products sent farther east? Why has New York grown to be such a large port? Why has it so many workshops? What is said about the number of workshops?

Where is New York city? Is the Hudson river deep or shallow? Where is West Point? What is said about it? Name and locate the capital of New York state.

Name a product of Rochester. Name one of Syracuse. Where does Syracuse get its salt? Can you think of one cause of the growth of these two cities?

What state has the best hard coal mines? Where does Pennsylvania get its best iron ore? What is said about the iron mills in this state?

What gave Philadelphia a start in manufactures? What kind of goods does it make? On what waters must a ship sail in going from Philadelphia to Liverpool?

Wm. Allen

Philadelphia is the third city in size in the country. It has a good harbor on the Delaware river. Iron ships are built on the banks of this river.

Many sheep are raised in this group of states. Wool is sent to Philadelphia and there made into yarn and cloth. This city leads the world in making woolen carpets.

Philadelphia is reached on one side by water and on all other sides by rail. Products from the prairies and the cotton fields of the South are sent here in train loads. Some are used



Oyster fishing

here, but others are sent to Europe.

Pittsburgh has the largest iron mills in the country. It is in the fork where two rivers unite to form the Ohio river. This city is the center of a great region of oil and gas wells and is within easy reach of coal mines. Thus it has plenty of fuel.

In the upper Ohio valley there are beds of sandstone used in making glass. The stone is crushed and melted to form the glass. This region is noted for glassware.

The former city of Allegheny is now a part of Pittsburgh. Together they form one great center of manufacture.

The capital of Pennsylvania is **Harrisburg**. It is one of many cities in this state having iron mills in or near them.

NEW JERSEY. This state shares with New York the fine harbor at the mouth of the Hudson river. Many steamship lines have their piers or wharves on the **Jersey City** side of the harbor. Many ferries connect this city with New York.

Not far away is **Newark**. This is the largest city in the state. It has large works for tanning hides and making glossy patent leather.

Around **Trenton** are found beds of fine clay that is made into beautiful pottery. This city is the capital of the state.

—**DELAWARE.** **Wilmington** is the largest city in the state. It has a deep harbor on the Delaware river. It is not far below Philadelphia and has many of the same kinds of industries. Its great car works are well known.

This state is wholly in the coast plain. It is noted for its peaches. **Dover** is the center of a rich fruit district. This city is the capital of the state. Many peaches are canned here or packed fresh to send to market.

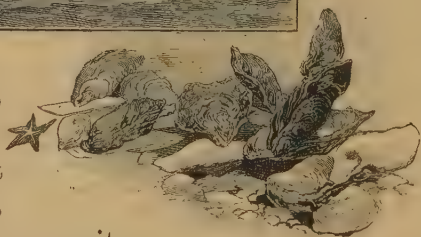
MARYLAND. This state is almost cut in two by the Chesapeake bay. The salt water reaches far north of the great city of **Baltimore**. This is the largest city in the state and is the chief port. Its trade is

about equal in value to that of Philadelphia.

Railroads from the prairies carry grain to Baltimore. Some of it is here ground to flour. Both grain and flour are shipped to Europe. This city is within easy reach of great tobacco fields and has large tobacco factories.

Chesapeake bay and its arms have the best oyster beds in the world. The oysters grow on the bottom and are gathered by men in boats. Baltimore is a noted oyster market.

The United States Naval Academy is at **Annapolis**. Young men are here trained to be officers in the navy. This city is the capital of the state.



DISTRICT OF COLUMBIA. **Washington** is the capital of the United States. It is in the District of Columbia. This is a tract of land set apart for the use of the nation. It is not a state.

The President and many other officers of the government live in Washington. The laws of the nation are made here. The Supreme Court, the highest court in the land, meets in this city.

Washington is noted for its fine buildings. The largest is the Capitol, where the laws are made. The National Library is one of the most beautiful buildings in the world.

The home of Washington was on the Potomac river just below this city. It is called Mt. Vernon. Find it on the map.

There are many places of interest in Washington. The White House is the home of the President. Not far away rises the Washington Monument, the tallest stone column in the world. *See page 38.*

VIRGINIA. The western part of this state is high land. It has several ranges of mountains. The Blue ridge is the highest. The long valleys west of the Blue ridge are very fertile.

The rest of the state is in the Atlantic slope. Many rivers flow eastward across it.

Richmond is the capital. It is at the head of tide water on the James river. The state raises much tobacco, and Richmond is a leading tobacco market.

Chesapeake bay enters this state and gives it many harbors. **Norfolk** has one of the best on the coast. This city ships large quantities of cotton. It comes from the states farther south.

WEST VIRGINIA. This state has no seacoast. The Allegheny mountains rise between it and Virginia. Its rivers flow into the Ohio.

Wheeling is the largest city in West Virginia. This city is in the midst of a rich gas and coal region. **Charleston** is the capital.

Helps. — What is said of the size of Philadelphia? On what river is it? What are built on the banks of this river? Give one reason why Philadelphia makes woolen goods. For what goods is it noted?

Where is Pittsburgh? Give one reason for the growth of iron mills in this city. What is said about glass?

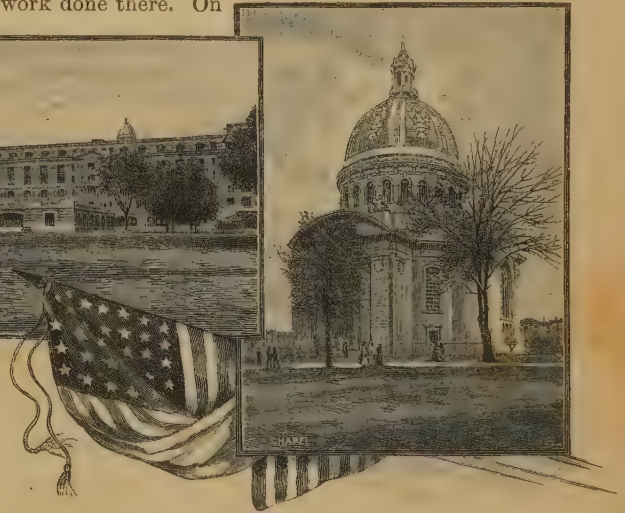
What is the capital of Pennsylvania? On what river is it?

What states border on New York harbor? Where is Jersey City? What is said about it?

Name the largest city in New Jersey. Tell one kind of work done there. On



Naval Academy, Annapolis



what river is the capital of New Jersey? What is made there? Where is Wilmington? What is said of its industries?

Which state is wholly in the coast plain? Name its capital. What kind of work is done in Dover?

—What states border on Chesapeake bay? Name a great port on this bay. What is said about the trade of Baltimore? Name some kinds of work done in Baltimore. What are some of its exports? Where are the best oyster beds in the world? What is the capital of Maryland?

What is the capital of the United States? Where is it? Tell all you can about it. What is said about Mt. Vernon? In what state is it?

How does the western part of Virginia differ from the eastern? Name two ranges in Virginia. Where do most of the rivers flow? Tell what you can about Richmond.

What large bay enters Virginia? Where is Norfolk? Name one of its exports.

Between what states do the Allegheny mountains rise? How do the rivers of West Virginia reach the sea?

Where is Wheeling? What is said of it? What is the capital of West Virginia?

114. Central states

The Central states include most of the prairie regions. They are shown on two maps on pages 155 and 159. Most parts of these states have plenty of rain. The summers are hot and the winters cold.

The eastern section of these states is south and west of the Great Lakes. It is east of the Mississippi river.

We have learned that the prairies are the best farming and grazing lands in the country. Corn and wheat are the chief grains. Millions of cattle and sheep graze here. Of course there are many horses to help do the farm work.

The richest iron mines in the world are near the south shore of lake Superior. The same region has very rich copper mines. There is soft coal under large areas of the prairies. The states in the valley of the Ohio river also have natural gas. The fuel and iron have led to the building of great iron mills in the large cities.

Round the three upper lakes are large soft-wood forests. Hard-wood forests are found a little farther south. This part of the country leads in making furniture and farm tools. It is noted for wagons and machines used in farming.

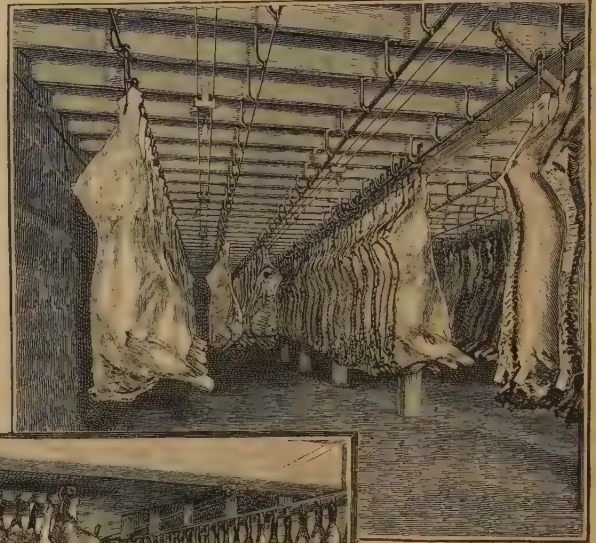
The Central states have good water ways to help transport all these products. The Great Lakes form one of the best in the world. A glance at the map will show how many states and cities can ship freight on the lakes. The Mississippi and Ohio rivers are deep enough for large steamboats. Long lines of railroad also form a network over these states.

Helps.—What group of states is east of the Central states? Which of the Great Lakes are on the north? On

page 155, which states border on lake Michigan? Which border on the Ohio river?—on the Mississippi?

Through what river do the Great Lakes send their waters to the sea? To what gulf do the largest rivers of these states flow? Which of these states contains part of the Eastern highland?

What rich farming region is mostly in the Central states? What is said about the rain and the seasons here? What



Beef room in a packing house

other states that you have studied have about the same seasons?

What long river divides the Central states into two sections? The little corner map on page 155 shows where the Eastern section is.



Packing fowl and game

What large state is east of Ohio?—south of Ohio?

Tell what you can about the products of the Central states. What are the chief grains? Of what use are the grass lands? Where are the richest iron mines? What other mines are near by? Where can these states get fuel? Why are there many iron mills in the great cities?

What is said about forests? What industries owe their growth to the nearness of the forests? Can you think of another reason why many wagons and farming machines are made here?

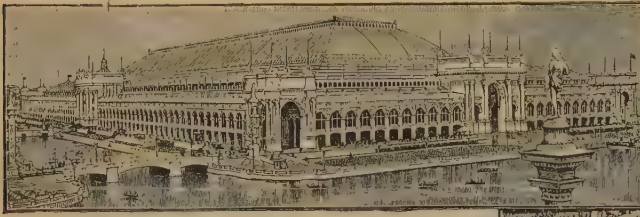
Of what use are the lakes and rivers in these states? Which of these states have ports on the Great Lakes? Name two great rivers that are good water ways. How can products be sent where there are no lakes nor rivers? Of what use are railroads that run to lake or river ports?



Mar 23

115. Central states,—Eastern section

OHIO. Cincinnati is a great river port and railroad center. It has a large trade with the



towns of three states. Look at the map and tell which they are. This is one of the cities that take high rank in meat packing.

Cleveland has one of the best locations in the country. It is on the south shore of lake Erie. Some ships go there loaded with iron ore or with lumber from the shores of the upper lakes. Others carry grain or other prairie products.

This city is not far from the coal and oil regions of Ohio and Pennsylvania. Thus it gets cheap fuel. The city has iron mills and huge oil refineries. Many iron steamers for the lake trade are built here.

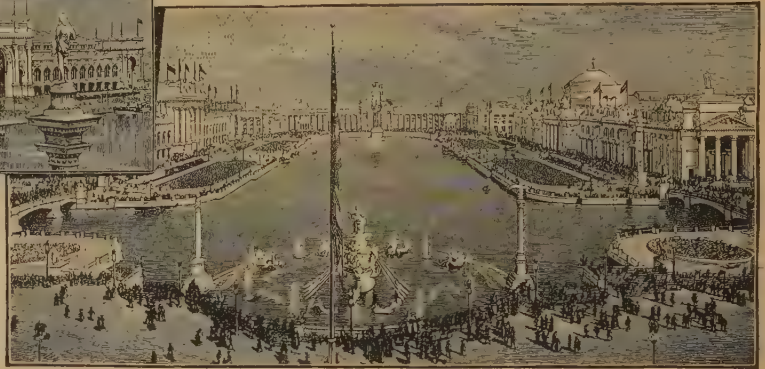
Columbus is the business center of middle Ohio. It is the capital of the state.

Toledo is near the western end of lake Erie. It is one of the great ports on the lakes. Many prairie products pass through this city.

INDIANA. Many cities in the prairie states have grown as centers of trade. Some of these send out and receive goods by rail. One of the largest is **Indianapolis**. It is the capital of Indiana. Round it is a rich farming and

grazing area. It is thus easy to see why this city has large flour mills and meat-packing houses. Many lines of railroad run to this city.

Evansville is one of the large ports on the



World's Fair buildings, Chicago

Ohio river. It is the largest shipping point in the southern part of this state.

ILLINOIS. Illinois is one of the largest and richest of the prairie states. Its great city and port is **Chicago**. It is near the southern



A dam built by beavers

end of lake Michigan.

Chicago is the second city in size in America. It leads all the cities of the world in many ways.

It is the largest lake port.

It is the greatest meat market.

It buys and sells the most wheat and corn. It makes the most steel rails. It



saws the most lumber and makes the most furniture. It has the most railroads.

Many prairie products are sent on the lakes from Chicago to Buffalo. How may they then be sent to New York?

Springfield is the capital of Illinois. This city and **Peoria** have grown up as centers of trade for one of the best farming regions of the world.

MICHIGAN. This is one of the richest copper states in the country. Michigan is also a



Steamship routes on the Great Lakes

leading iron state.

Many cities on the Great Lakes have about the same kind of trade as Chicago. One of these is **Detroit**. It has a fine harbor on the Detroit

river and is on the route of all steamers going from the upper lakes to lake Erie. The city can thus easily obtain such material as lumber and iron.

Grand Rapids is not far from the soft-wood and hard-wood forests. This city is famous for the manufacture of furniture.

Lansing is the capital of Michigan.

WISCONSIN. **Milwaukee** is the second city in size on lake Michigan. It has about the same kind of lake trade as Chicago.

Wisconsin has great forests. Much of the lumber is sent down the Mississippi river.

Lacrosse is one of the river ports that have a large trade in lumber.

Madison is the capital of the state.

KENTUCKY. This state has fine grazing lands and tobacco fields. Its largest city is **Louisville**. It is a railroad center and one of the chief tobacco markets of the world.

Covington and **Newport** are thriving cities across the river from Cincinnati. **Frankfort** is the capital of the state. It is in the midst of a grazing region famous for horses.

Helps.—Name a port on the Ohio. Where is Cleveland? What do ships carry to this city? Where can Cleveland get fuel? Name some industries of this city. What is the capital of Ohio? Where is Toledo?



Why has Indianapolis become a center of trade? Can you tell what kinds of products are sent to this city? What is the capital of Indiana? Name a large river port of this state.

Name the largest city in the Central states. Where is it? Name six ways in which Chicago leads the world.

On which lakes would a vessel sail in going from Chicago to Buffalo? What freight might the vessel carry?

Name the capital of Illinois. Name a city on the Illinois river that is in a rich farming district.

Tell some reasons why Detroit has grown to be a large city. To what does Grand Rapids owe its growth? What is the capital of Michigan?

Name two large ports on lake Michigan. What kind of trade has Milwaukee? Name a lumber market on the Mississippi river. Where does the lumber come from? What is the capital of Wisconsin?

Name two products of Kentucky. What is said about Louisville? Name two cities across the Ohio from Cincinnati. What is the capital of Kentucky?

116. Central states,—Western section

The states of this group are west of the Mississippi river. The greater part of the area is rich prairie, but the western part is dry.

The prairies yield large crops of corn and wheat. Every state in the group has good grazing lands. In the north many people work at lumbering in the forests. Some of these states have rich mines of lead and zinc.

MISSOURI. **St. Louis** is the largest center of trade west of the Mississippi river. The states in the South send cotton and sugar up the great river to St. Louis. The

of cattle are sent from states farther west to fatten in the corn area of Kansas.

Topeka is the capital of Kansas. Many railroads meet here and make it a supply city for a large part of the state.

Most of Kansas is in the prairies, but the western part is too dry for grain crops.

IOWA. This is one of the rich prairie states. **Des Moines** and **Sioux City** are markets for all kinds of prairie products. The former is the capital of the state.

Dubuque and **Davenport** are lumber markets on the Mississippi river. This great stream and its branches place them within easy reach of the great northern forests.

Helps.—What country is on the north of this group of states? What other states that we have studied border on Canada?

Which states of this group are on the west or right bank of the Mississippi river? How many states in this group are touched by the Missouri river? Name the largest lake that borders on Minnesota.

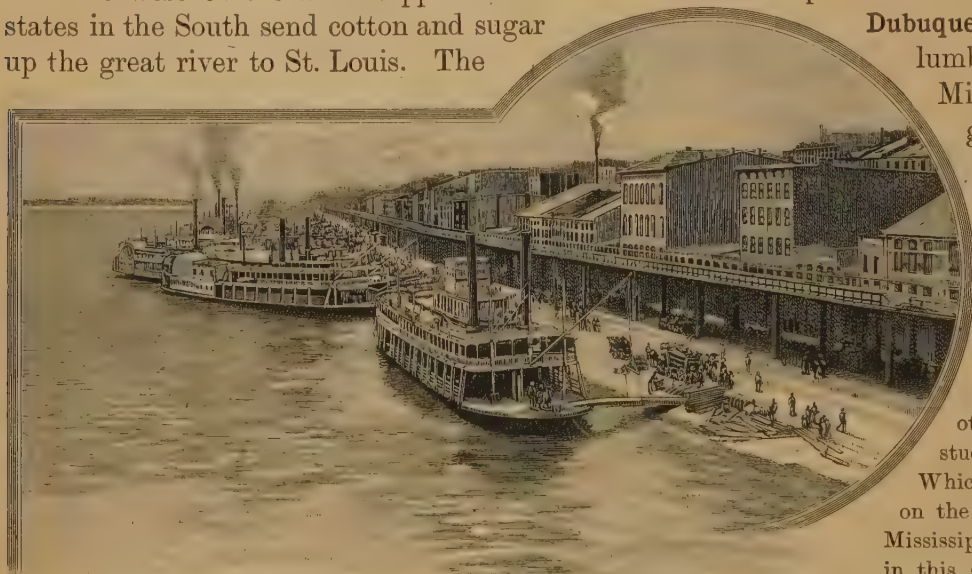
Which part of this group of states is in the prairies? Why is the western part not fertile? Name some products of these states.

What is said of the size of St. Louis? Name some products that are sent to this city. What kinds of goods are shipped away from it? Can you name some articles needed on farms?—in mines? Where are the Ozark mountains?

What is the capital of Missouri? On what river is it? Name another city higher up the river. Tell what you can about the twin Kansas Cities. What is the capital of Kansas? Which part of this state is dry?

Name a prairie state north of Missouri. How do you know that it has fertile soil? Name two cities that handle its prairie products. Which of these is the capital? Which is on the Missouri river?

What kind of products would you expect to find in Iowa? What is the capital of this state? Name two lumber markets of Iowa. Why have many of the cities along the Mississippi river become lumber markets?



Mississippi levee or river front in St. Louis

Western plain and the prairies supply cattle and grain. Various states send tobacco.

Trains from St. Louis reach every part of the near-by states and carry out every kind of article needed on the farms or in the mines.

Jefferson City is the capital of this state.

Kansas City is one of the great railroad centers of the country. It has a large trade with the farming and grazing area round about. By the side of this city there is another of the same name in Kansas.

KANSAS. One of the twin cities named **Kansas City** is in the eastern part of this state. These cities are the largest meat market west of Chicago. Each year thousands



MINNESOTA. This state has some of the best wheat lands in the world. They are in the valley of the Red river. The state also has both soft-wood and hard-wood forests. **Minneapolis** is within easy reach of the wheat fields and the forests. This city has fine water power. It makes more flour than any other city in the world and is the largest lumber market in this group of states.

Steamboats can go up the Mississippi river from the gulf of Mexico to **St. Paul**. This city is also a railroad center. The rail and water routes make it a supply city for a large farming and lumbering region. This city is the capital of the state.

Duluth is on a good harbor at the western end of lake Superior. This port handles much of the wheat raised on the rich lands of the Red river prairies.

Long
ages
ago a
great
lake

covered the lands now known as the Red river prairies and also a much larger area stretching northward in Canada. Streams carried fine mud into the ancient lake and spread it over the bottom. After a long time the lake was drained away, and the muddy bottom dried and became the most fertile wheat land in the world.

NORTH DAKOTA. Part of the famous Red river wheat district is in this state. Large areas also afford good grazing.

Fargo and **Bismarck** are centers of trade. The latter is the capital.

SOUTH DAKOTA. The northeast part of this state is in the famous wheat lands of the Red

river valley. The southeast part of the state is in the corn belt of the prairies. There are rich gold mines in the Black hills.

Sioux Falls and **Pierre** are trade centers. The latter is the capital.

NEBRASKA. The richest lands of Nebraska are in the eastern half. The map shows that the chief cities and towns are in the same half. The largest city is **Omaha**. It is on the Missouri river and is also a railroad center. This city is a great cattle market. It has a large trade in prairie products.



Scene in Milwaukee,
Wisconsin

River full of logs in Wisconsin

Lincoln is the chief city for the wheat and

corn district of southeast Nebraska. It is the capital of the state.

Helps. — Between which two states does the Red river flow? For what is its valley noted? Tell all you can about Minneapolis. Tell all you can about St. Paul.

Where is Duluth? Name some great cities that can be reached by boat from Duluth. Tell how you might go in a boat from Duluth to New York city.

What two other states include part of the Red river valley? Which part of South Dakota is in the corn belt? Where are the Black hills? What comes from them?

Name two cities of North Dakota. Name two of South Dakota. Which are capitals? Which part of Nebraska has the best soil? Where is Omaha? Why has it become a center of trade? What is the capital of Nebraska?

117. Southern states

The Southern states are shown on the next two maps. They are mostly in the Southern plain. The Eastern section is east of the Mississippi river.

The Eastern highland enters all but two of the states of this section. Mt. Mitchell is the highest peak in the whole highland. Find it on the map.

The rivers show that most of this section slopes to the Atlantic ocean and gulf of Mexico. There is plenty of rain. The winters are short and cool. The summers are long and hot.

Cotton is the leading crop in these states. Part is made into cloth in cities near the cotton fields. Much more is sent to northern cities and to Europe.

Peaches, pears and other fruits thrive in parts of these states. Oranges grow well in Florida. Many early vegetables are raised for northern cities and towns.

Rice grows in the wet lands near many of the rivers. The rich lands near the lower Mississippi are noted for rice. Sugar cane thrives near the same region and in other fertile river valleys farther west.

Corn and wheat are raised in many parts of these states. Large forests of long-leaf pine grow on the Southern plain. Lumber and rosin are leading products.

There are iron and coal mines in the southern part of the Eastern highland. Iron mills have been built near the mines.

This long list of products shows what kind of work the people of the South do. They work in the cotton fields. They weave cotton cloth. They press oil from cotton seed. They take care of fruit trees. They plant the rice fields. They raise sugar cane and make sugar. They raise corn and wheat. They feed cattle. They cut down trees and saw lumber. They make tar and rosin out of the sap of pine trees. They dig iron ore and coal. They work in iron mills. They work on railroads and ships that carry the various products.



Loading cotton at Memphis. Steamboats on the Mississippi river

There are many cities in the South. They are not so large as some in the North.

Helps. — Into which of these states does the Eastern highland enter? What is said of Mt. Mitchell? Where is it? How does the climate of these states differ from that of the Northern states?

What is the leading crop in the South? Where is the cotton used? Name two kinds of fruit that grow here. Name a product of the wet lands. What products grow in the rich lands near the Mississippi river?

Rice is a grain. Name two other grains that grow in these states. Tell what you can about the long-leaf pine.

What are mined in the Eastern highland? Tell all you can about the work the people in these states do.



118. Southern states,— Eastern section

NORTH CAROLINA. This is one of the southern pine and cotton states. **Wilmington**, the chief port, exports lumber and cotton. **Charlotte** is the largest city. **Raleigh** is the capital. It has many factories and cotton mills.

SOUTH CAROLINA. This state has a large export trade in southern products. Among these are lumber, turpentine and rice. **Charleston** is the largest city and chief port.

Columbia, the capital, is a railroad center.

GEORGIA. This is a great cotton state. It is noted also for its peaches.

Atlanta is the capital. Being a railroad center, it is a market for products of the South. Large cotton mills have been built in this busy city.

Savannah is a port at the mouth of the river of the same name. It takes high rank in the export of rosin, cotton and rice.

Augusta has some of the largest cotton mills in the South.

FLORIDA. **Jacksonville** is the chief city. It is a leading port for naval stores and lumber.

Pensacola has a fine harbor and ranks high in the export of lumber.

Key West is in a group of coral islands. It is noted for cigars and



Tobacco market

sponges. **Tampa**, also noted for cigars, is the chief port for steamers going to Cuba.

Tallahassee is the capital.

Helps.—Name the Southern states along the Atlantic ocean. Which is a long peninsula? What group of islands is east of Florida? The Bahama islands belong to Great Britain. Name the states along the gulf of Mexico from Florida to the Mississippi delta.

Which states in this group are on the east bank of the Mississippi? Which of these states has no seacoast?

What is the highest peak in the Eastern highland? Where is cape Hatteras? Name a product of North Carolina. What is said about Wilmington?—about Raleigh?

Name two products of South Carolina. Where is its largest city? What is its capital?

Name two products of Georgia. What is the capital of this state? Why has Atlanta become a great market? Name an industry of this city.

Where is Savannah? What is said about it? Between what states does the Savannah river flow?

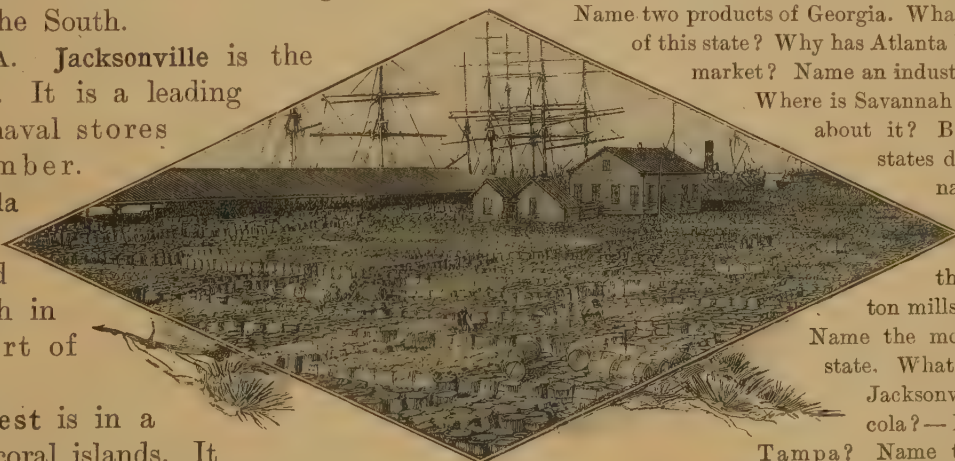
What city has some of the largest cotton mills in the South?

Name the most southerly state. What is said about Jacksonville?—Pensacola?—Key West?—

Tampa? Name the capital of Florida.



Long-leaf pine, North Carolina



Shipping rosin, Savannah



ALABAMA. **Mobile** is on a good harbor at the head of Mobile bay. Cotton and lumber are the chief exports.

Birmingham is in the heart of the coal and iron district. It has great iron and steel mills.

Montgomery is the capital.

MISSISSIPPI. Some of the richest lands in the country are in this state. They are the low lands made by the Mississippi river and its branches. Nearly all kinds of southern products grow in this state. Among them are cotton, rice and sugar cane. There are also valuable forests.

Vicksburg and **Natchez** are well-known cotton markets on the Mississippi river. **Jackson** is the capital. **Meridian** is the largest city.

TENNESSEE. This state has large areas of wheat and tobacco. It also has great forests. **Nashville** is the capital. It is a market for wheat, tobacco, cattle and lumber.

Memphis is the leading cotton market in the state. It is built on the eastern bluffs of the Mississippi river. Its river trade is very large. Much of the cotton is sent by rail to eastern cities.

Chattanooga is in the coal and iron region near the southern end of the Eastern highland.

Helps. — Where is Mobile? What does it export? What is the chief industry of Birmingham? Name the capital of Alabama.

Tell about the products of Mississippi. Locate its two chief river ports. Name the state capital.

Name three products of Tennessee. What is said about Nashville? — about Memphis? — about Chattanooga?

119. Southern states,—Western section

Most of the products of these states are like those of the Eastern section. Cotton thrives over great areas. Wheat and corn grow in the more fertile areas. Sugar cane and rice

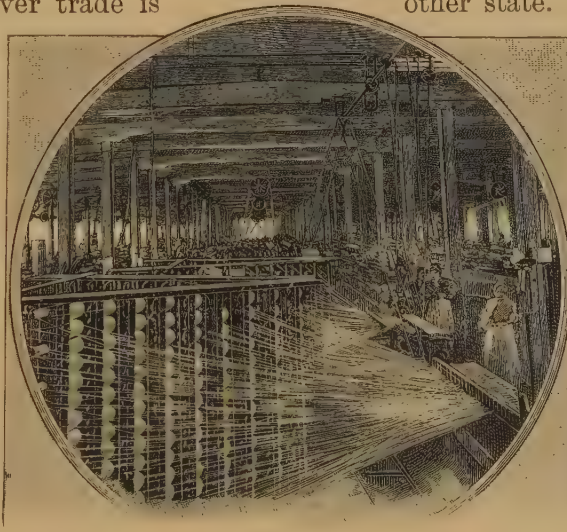


Steamship loading cotton at Savannah

grow in the deltas and rich lands along the rivers. Cattle and sheep graze over large tracts.

LOUISIANA is the leading lumber state in the South. It produces more sulphur than any other state. It has large beds of salt.

Petroleum and natural gas are found in abundance. Sugar cane, cotton and rice are leading crops. **New Orleans** is the chief city of the Southern states. It is on the Mississippi river, which floats to New Orleans many of the products of the states along its banks. This city is the leading cotton market. Its trade in rice, wheat and sugar is large. Its mills



Southern cotton mill

and workshops are growing fast. Several railroad lines center in New Orleans.

Shreveport is a large cotton market on the Red river. It is in the natural-gas and oil region of the state. **Baton Rouge** is the capital.

TEXAS is the largest state. It is the leading cotton state and takes high rank for rice and sugar. Its rich prairies produce wheat. This state has many oil wells.

Dallas and **Fort Worth** are trade centers for the rich Texas prairies. These cities supply a large farming and grazing district.

San Antonio is famous as the scene of the battle of the *Alamo*. The *Alamo* is a building in which a few brave Americans

lines form a network over the state. This state includes the former territory of Oklahoma and the Indian territory. The latter was long ago set apart as a home for tribes of Indians, but many white people also went there to live.

Oklahoma has rich mines of soft coal. The fertile soil produces cotton, corn and wheat. There are also good grass lands for cattle. The state has rich oil wells, and valuable forests cover much of the eastern part.

Oklahoma is the capital and largest city. **Muskogee**, **Tulsa** and **McAlester** are leading cities in rich coal and oil districts.



Mississippi levee or river front in New Orleans

fell while fighting for the independence of Texas from Mexico.

Galveston is the chief port of Texas. It is on an island at the entrance to Galveston bay. This is one of the leading cotton ports of the country. **Austin** is the capital of Texas.

ARKANSAS. **Little Rock** is the capital and largest city in this state. This is one of the many southern cities that make cotton-seed oil and oil cake.

Fort Smith is a center of trade for the western part of the state. It is above Little Rock on the Arkansas river.

OKLAHOMA. Oklahoma was opened to white settlers only a few years ago, but it is now dotted with thriving towns and cities. Railroad

Helps. — Name some of the products of this group of states. What and where is the largest city? Tell all you can about New Orleans.

Into what does the Red river flow? Name a cotton market on this river. Where is there another Red river? *See page 159.* What is the capital of Louisiana? What river is building a delta in this state?

Where is the Brazos river? What is said about the size of Texas? Which part of Texas has few towns? Why? Name two cities in the Texas prairies. For what is San Antonio noted? What and where is the chief port of Texas? Name one of its exports. What is the capital of this great state?

What great river flows southeastward across Arkansas? What is the capital of Arkansas? What are made in this city? Where is Fort Smith?

What state lies west of Arkansas? What long river flows eastward across it?

What does Oklahoma include? What is said of its people? — of its products? Name three of its cities.

Mar 31

120. Southwestern states

The states in the Western highland have very rich mines of gold and silver. The richest are in the Rocky mountains.

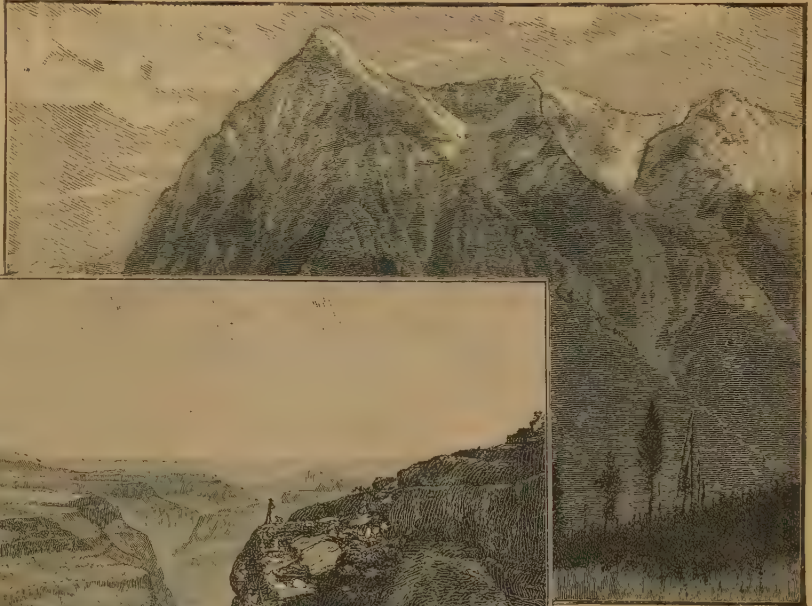
The plains east of the mountains support many cattle. Sheep and cattle are also found in many parts of the highland.

The valleys west of the Sierra Nevada and Coast ranges produce great quantities of wheat and fruits. The western slopes of these mountains have heavy rainfall and supply lumber.

The plateau between the

Pikes peak is not far from Denver. A railway goes to the top of this peak. It is one of the best known mountains in the country. Its snowy top can be seen from far away in the plains.

Miners need picks and shovels. They must have also drills and hammers. Some of the mines use engines for pumping water or for hoisting.



Peaks in the Rocky mountains

The miners need houses and all that goes to fit them for homes. They must have food and clothing. Often they must use powder for blasting hard rocks. Denver sells many such articles to the miners.



Rocks deeply worn by water in the valley of the Colorado river

Rocky mountains and Sierra Nevada is known as the Great Basin. A large part sends no river to the ocean. The Great Basin is thinly settled.

COLORADO. This state has some of the richest mines of gold and silver in the country.

Denver is east of the Rocky mountains, but near enough to supply mining towns. This city has also a large trade with cattle ranches on the plains. It is the state capital.

Pueblo has large works for smelting ores. Smelting means melting ores to get metals from them. Pueblo smelts ores of silver and lead and also has great iron works.

Helps.—Name two products of the Western highland. Name two products of the Western plain. What part of this region has large crops of wheat and fruits?

What rich mines are found in Colorado? Tell what you can about its largest city. Name a high peak not far from Denver. What does smelting mean? Name some ores that are smelted in Pueblo.

NEW MEXICO. Silver mining and cattle raising are the chief industries of New Mexico. **Santa Fe** is the capital. It is the second oldest town in the United States. St. Augustine in Florida is the oldest. Santa Fe and **Albuquerque** sell supplies for mines and ranches.

ARIZONA. Arizona has rich mines of copper and silver. **Phoenix** is the capital. This city and **Tucson** supply outfits to miners.

UTAH. Utah is one of the leading states in the mining of silver. Fruits, vegetables and grains grow in the small river valleys, where water from the streams can be led over the fields and gardens.

Salt Lake City and **Ogden** are centers of supply for the mining and farming districts. The former is the capital of the state. It is famous as the home of the Mormon church.

NEVADA. This state has rich gold and silver mines. **Reno, Virginia City** and **Carson City** are the chief mining centers. The latter is the capital.

CALIFORNIA. **San Francisco** is the largest city on the Pacific coast. It has one of the best harbors in the world. A large part of the foreign trade of the Pacific states

passes through this port. In the spring of 1906 San Francisco was shaken by terrible earthquakes. A large part of the city was burned.



Mormon Temple and Tabernacle
in Salt Lake City, Utah

The Golden Gate is the name of the entrance to San Francisco harbor or bay.

Los Angeles is growing rapidly. It is the principal city in the orange district of southern California.

Sacramento is the capital.



A Colorado silver mine

Helps. — What ocean is west of California?

What highland crosses these states from north to south? What great mountain range crosses New Mexico and Colorado? In what state is nearly all of the Sierra Nevada?

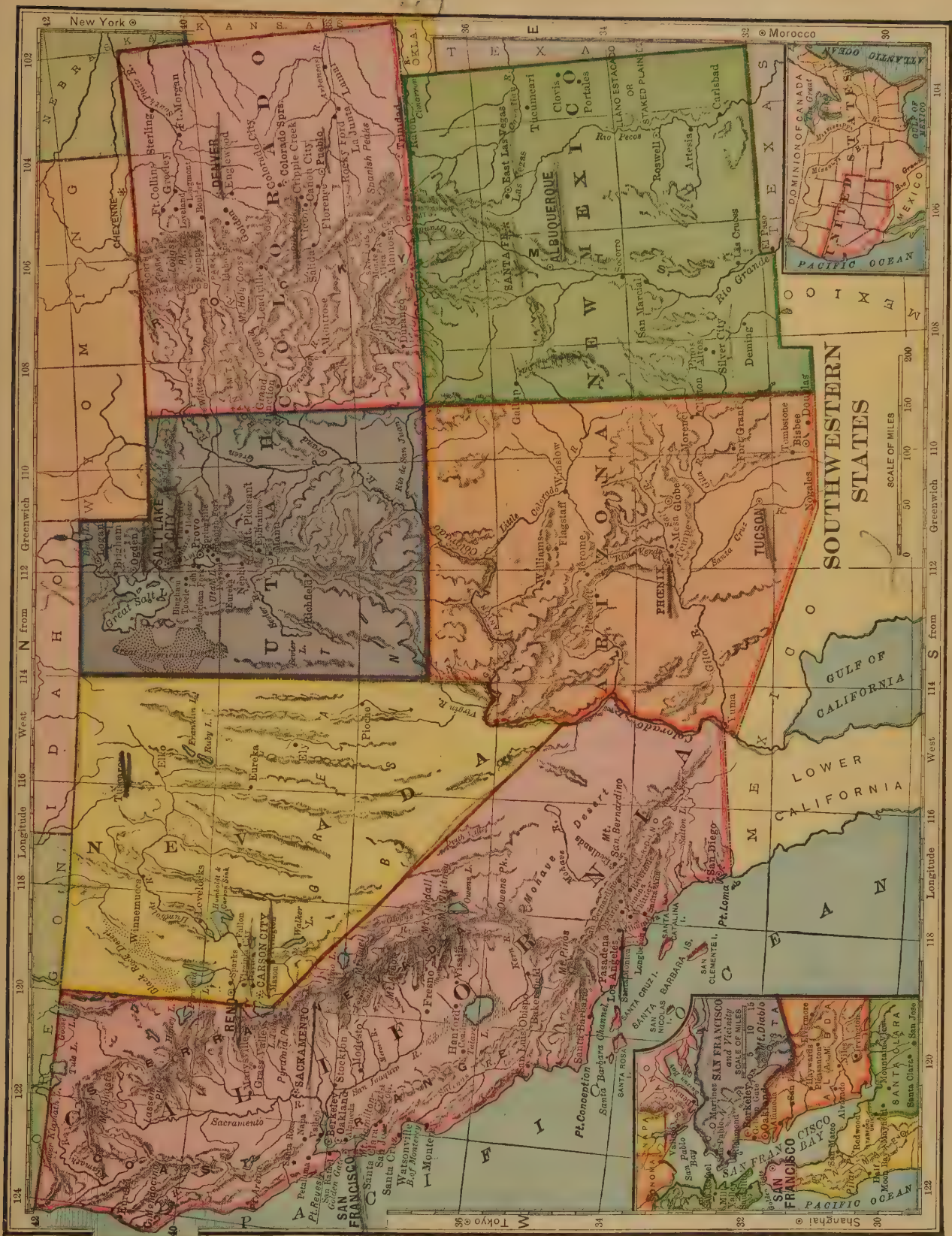
What have you read about the canyon of the Colorado river? Into what gulf does this river flow? In what mountains does the river rise? What two states are wholly or partly separated from Arizona by this river?

In what state is Great Salt lake? — Mt. Whitney? — Pikes peak? — Mt. Shasta? — the Wasatch mountains? To what bay does the Sacramento river flow?

Name some products of New Mexico. What and where is the oldest town in our country? — the second oldest? Name two towns of New Mexico.

What is said about Arizona? — about its towns? Name a mineral of Utah. What is said about other products of Utah? Name two cities of Utah. For what is Salt Lake City noted?

What is said about Nevada and its towns? Tell what you can about San Francisco. What is the Golden Gate? What is said about Los Angeles? Name the capital of California.



121. Northwestern states

These states are like the Southwestern states in many ways. Both groups are in the Western highland. Both are crossed by the Rocky mountains. Both have many gold and silver mines. Both have grazing lands in the Western plain and between the ranges. Both have valleys of rich soil yielding wheat. Both have great lumber forests on the slopes of the mountains facing the ocean.

Many salmon are caught in the Columbia river.

MONTANA. This state is famous for its rich copper mines. It is a leading state in the production of silver. It also has rich gold mines.

Helena, the capital, deals largely in supplies for miners and cattle men.

The city of **Butte** is the center of copper mining in the state of Montana.

WYOMING. **Cheyenne**, the capital, is a noted market for cattle. This city and **Laramie** sell supplies to cattle men.

IDAHO. This is chiefly a gold and silver mining state, but there are fertile wheat fields in many of the river valleys.

Boise is the capital and center of trade.

OREGON. The valleys west of the Cascade range have farms and orchards. East of this range are many wheat fields and grazing tracts for sheep and cattle. This state supplies much

lumber. **Portland** is the largest center of trade in Oregon. Much wheat is shipped from this port. **Salem** is the capital.

WASHINGTON. This state has good harbors on Puget sound. Its products are like those of Oregon. **Seattle** and **Tacoma** are two ports having a large trade in West Coast products. **Olympia** is the capital.



Helps.—In what part of our country is this group of states? What country is on the north?

Name all the states that border on the Pacific ocean.

What does the relief map of the United States show about the surface of these states? Which of the states are crossed by the Cascade range?—by the Rocky mountains?

What great river flows through the Cascade range? Between what two states does it flow?

Name some of the products of these states. For what three mining products does Montana take high rank? What is the capital of Montana? What is the great copper city of this mountain state?

Name a product of Wyoming. Name two of its cities. What are some of the products of Idaho? What is the chief city of Idaho?

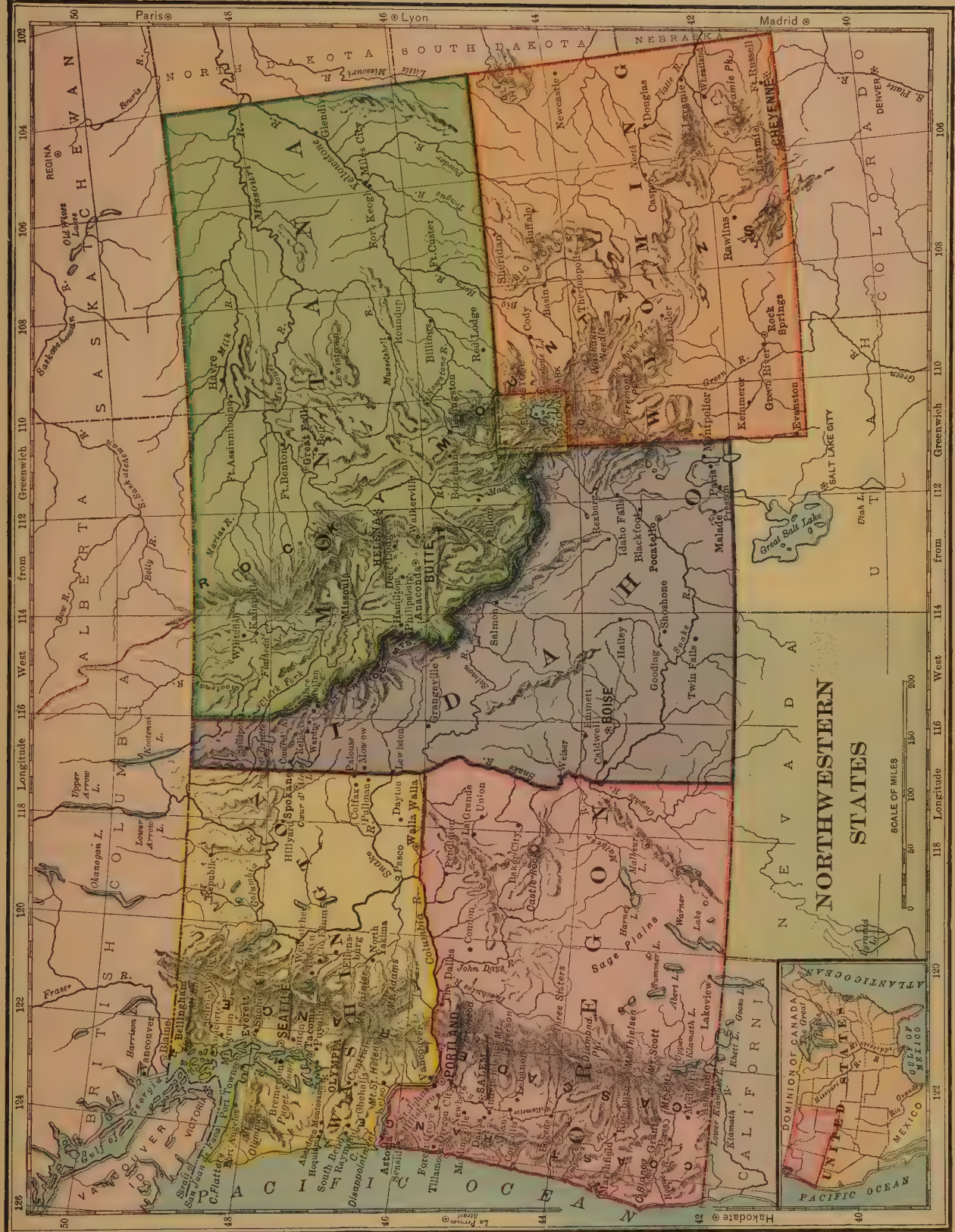
Tell what you can about the products of Oregon. What is the leading port of this state? What is the capital of Oregon?

What is said of the products of Washington? Where is Puget sound? Name two ports on this sound. What is the capital of Washington?

In which of these states is the Yellowstone park? This park is a rough and wild natural region set apart by the government as a park for the whole nation. One object was to preserve for ages the geysers, hot springs and other natural objects for which the park is noted. Some rivers flow from this park to the Pacific ocean, others to the gulf of Mexico.



Forest of fir trees near the Pacific coast of the United States



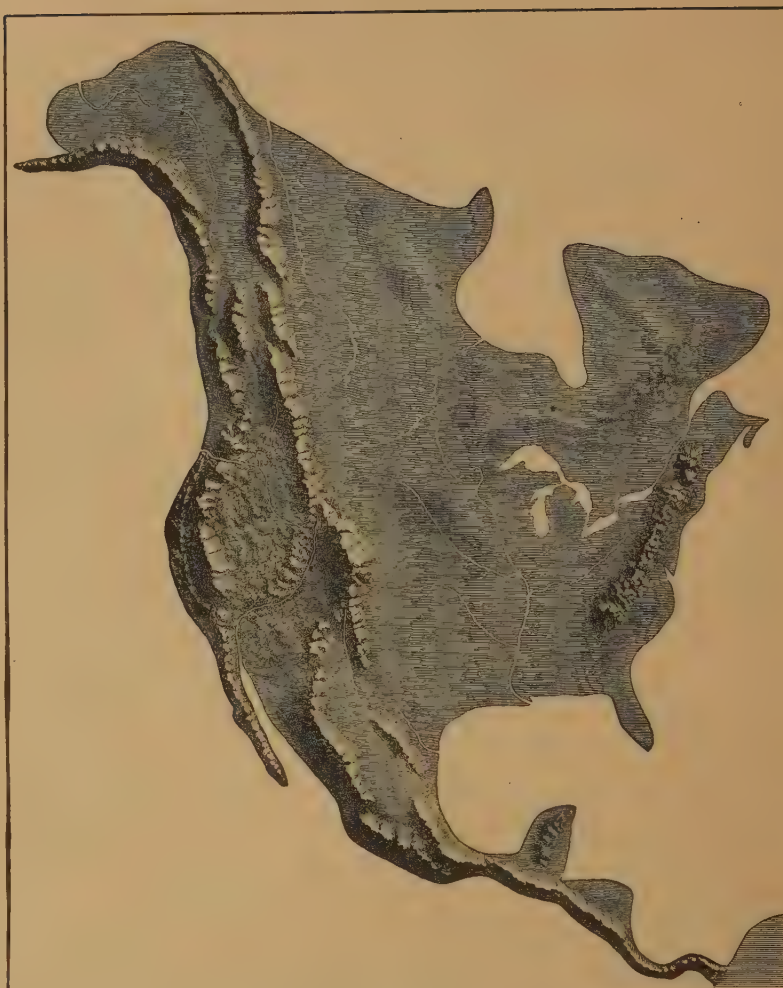
SUPPLEMENT

POPULATION OF THE PRINCIPAL CITIES OF THE WORLD

NORTH AMERICA			Paraguay			Italy			China		
British America			Year	Population		Year	Population		Year	Population	
1911	Montreal . . .	466,197	1905	Asuncion . . .	60,259	1911	Naples . . .	723,208	1910	Canton . . .	900,000
1911	Toronto . . .	376,240				1911	Milan . . .	599,200	1910	Hankow . . .	826,000
1911	Winnipeg . . .	136,035				1911	Rome . . .	538,634	1910	Tientsin . . .	800,000
1911	Vancouver . . .	123,902				1911	Turin . . .	427,733	1911	Peking . . .	692,850
1911	Ottawa . . .	86,340	1908	Lima . . .	140,884	1911	Palermo . . .	341,656	1910	Shanghai . . .	651,000
1911	Hamilton . . .	81,879	1908	Arequipa . . .	35,000	1911	Genoa . . .	272,077	1910	Foochow . . .	624,000
1911	Quebec . . .	78,710	1908	Callao . . .	31,000	1911	Florence . . .	232,860			
1911	Halifax . . .	46,619	1908	Cuzco . . .	15,000	1911	Venice . . .	160,727			
1911	London . . .	46,300									
1911	Calgary . . .	43,704									
1911	St. John . . .	42,511									
1911	Victoria . . .	31,060									
Central America			Uruguay			Netherlands			East India Islands		
1910	Guatemala . . .	90,000	1909	Montevideo . . .	291,465	1911	Amsterdam . . .	573,983	1910	Manila . . .	234,409
1910	Leon . . .	62,569				1911	Rotterdam . . .	426,888	1909	Soerabaya . . .	150,198
1910	San Salvador . . .	59,540				1911	The Hague . . .	280,515	1909	Batavia . . .	138,551
1910	Panama . . .	35,500									
1910	Managua . . .	34,872									
1910	San Jose . . .	29,660									
Mexico			Venezuela			Norway and Sweden			French Indo-China		
1910	Mexico . . .	470,659	1908	Caracas . . .	78,000	1911	Stockholm . . .	341,986	1909	Hanoi . . .	150,000
1910	Guadalajara . . .	118,799	1908	Valencia . . .	42,000	1911	Christiania . . .	241,834	1909	Saigon . . .	50,870
United States			1908	Maracaibo . . .	37,000	1911	Goteborg . . .	167,813	1909	Hue . . .	50,000
See page iv						1911	Bergen . . .	76,867			
West Indies			EUROPE			Portugal			Japan		
1910	Havana . . .	319,884				1910	Lisbon . . .	357,000	1908	Tokyo . . .	2,186,079
1909	Port au Prince . . .	100,000				1910	Oporto . . .	168,000	1908	Osaka . . .	1,226,590
1910	Cienfuegos . . .	70,380							1908	Kyoto . . .	442,462
1910	Matanzas . . .	64,385							1908	Yokohama . . .	394,903
1911	Kingston . . .	57,379							1908	Nagoya . . .	378,231
1910	Santiago . . .	53,614							1908	Kobe . . .	278,197
SOUTH AMERICA									1911	Seoul . . .	278,958
Argentina											
1911	Buenos Aires . . .	1,319,747									
1911	La Plata . . .	100,608									
1911	Cordoba . . .	70,380									
Bolivia											
1909	La Paz . . .	78,856									
1909	Sucre . . .	23,416									
Brazil											
1909	Rio de Janeiro . . .	1,000,000									
1906	Bahia . . .	230,000									
1906	Pernambuco . . .	150,000									
1906	Para . . .	50,000									
Chile											
1907	Santiago . . .	332,724									
1907	Valparaiso . . .	162,447									
Colombia											
1908	Bogota . . .	150,300									
1908	Barranquilla . . .	40,200									
Ecuador											
1909	Guayaquil . . .	80,000									
1909	Quito . . .	70,000									
Guiana											
1911	Georgetown . . .	53,000									
1910	Paramaribo . . .	35,082									
1911	Cayenne . . .	13,527									

COUNTRIES AND COLONIES

NORTH AMERICA		10,050,000	130,000,000
Year		Area	Population
1911	Canada	3,729,665	7,206,643
1911	Costa Rica	23,000	388,266
1910	Cuba	44,000	2,220,278
1910	Guatemala	48,290	1,992,000
1910	Haiti (island)	28,523	2,737,700
1910	Honduras	46,250	553,446
1910	Mexico	767,000	15,063,207
1911	Newfoundland	42,734	238,670
1910	Nicaragua	49,200	600,000
1912	Panama	32,380	426,928
1912	Salvador	7,225	1,161,426
1910	United States	3,622,930	93,402,151 ¹
SOUTH AMERICA		7,500,000	50,000,000
1911	Argentina	1,153,119	7,171,910
1910	Bolivia	708,195	2,267,935
1911	Brazil	3,290,564	23,070,969
1911	British Guiana	90,277	296,000
1910	Chile	292,580	3,415,060
1912	Colombia	202,766	5,233,415
1911	Dutch Guiana	46,060	86,233
1910	Ecuador	116,000	1,500,000
1911	French Guiana	30,500	49,009
1910	Paraguay	171,770	700,000
1908	Peru	695,733	4,500,000
1911	Uruguay	72,210	1,177,560
1911	Venezuela	393,976	2,743,841
EUROPE		3,900,000	470,000,000
1913	Albania	10,900	900,000
1910	Austria-Hungary	241,277	49,458,421
1910	Belgium	11,373	7,516,730
1913	Bulgaria	43,700	4,800,000
1911	Denmark	15,582	2,775,076
1911	England	50,890	34,045,290
1911	France	207,054	39,601,509
1910	Germany	208,780	64,925,993
1913	Greece	46,000	4,600,000
1911	Ireland	32,360	4,390,219
1911	Italy	110,659	34,671,377
1913	Montenegro	5,600	500,000
1910	Netherlands	12,648	5,945,155
1910	Norway	124,129	2,391,782
1911	Portugal	35,490	5,967,985
1913	Roumania	54,300	7,400,000
1911	Russia	1,997,310	138,274,500
1911	Scotland	30,406	4,759,445
1913	Serbia	33,600	4,300,000
1910	Spain	194,783	19,588,688
1910	Sweden	172,876	5,522,403
1910	Switzerland	15,976	3,741,971
1913	European Turkey	9,000	1,600,000
1911	Wales	7,434	2,025,202
ASIA		16,000,000	880,000,000
1911	Afghanistan	250,000	5,900,000
1911	Arabia	170,300	1,050,000
1911	Baluchistan	134,638	1,049,808
1910	China	4,277,170	433,553,030
1911	India (British)	1,789,154	315,132,537
1911	Indo-China (French)	256,000	16,390,000
1912	Japan (incl. Korea)	175,540	65,661,978
1906	Java (also under Oceania)	50,554	30,098,008
1911	Korea (also under Japan)	86,000	13,461,239
1909	Persia	628,000	9,500,000
1910	Philippines (Oceania)	127,853	8,276,802
1910	Russia in Asia	6,294,119	26,664,500
1910	Siam	195,000	8,117,953
1910	Asiatic Turkey	429,272	21,000,000
AFRICA		12,170,000	126,000,000
1911	Abyssinia	432,432	8,000,000
1911	Algeria	343,500	5,563,828
1911	Belgian Congo	909,654	15,500,000
1911	Cape of Good Hope	276,995	2,564,965
1907	Egypt	407,000	11,189,978
1911	Liberia	40,000	2,000,000
1911	Madagascar	228,000	3,104,881
1911	Morocco	219,000	5,000,000
1911	Sahara	2,000,000	2,500,000
1911	Sudan	2,000,000	50,000,000
1911	Transvaal	110,426	1,686,212
1911	Tripoli	406,000	529,176
1910	Tunis	50,000	1,923,217
1911	Union of South Africa	473,100	5,973,394
AUSTRALIA & OCEANIA		4,250,000	51,000,000
1911	New South Wales	310,372	1,648,448
1911	Northern Territory	523,620	3,310
1911	Oceania	1,275,805	46,544,995
1911	Queensland	670,500	606,813
1911	South Australia	380,070	408,558
1911	Tasmania	26,215	191,211
1911	Victoria	87,884	1,315,551
1911	Western Australia	975,920	282,114



NOTE. The maps of this series, pages ii to v, are inserted as a guide for teachers in drawing and modeling. The outlines are so simple that no construction lines are needed. Pupils can easily learn to *sketch* these maps. They are all made on the same area-scale and show the relative sizes of the continents.

Rivers and River Basins

RIVER	AREA OF BASIN, SQUARE MILES	LENGTH IN MILES
Amazon	2,500,000	4,000
Kongo	1,500,000	3,300
Nile	1,400,000	4,000
Missouri- Mississippi	1,250,000	4,200
Plata	1,250,000	2,300
Yangtze	500,000	3,300
Volga	500,000	2,300
Ganges	450,000	1,800
St. Lawrence	350,000	2,000
Danube	300,000	2,000
Orinoco	300,000	1,500
Columbia	250,000	1,400
Colorado	250,000	1,100

¹ Exclusive of the island possessions (except Porto Rico and Hawaii) and inclusive of 55,608 persons in the service of the United States stationed abroad. Including the Philippine islands as enumerated by the census of 1903 under the direction of the War Department (7,635,426), and adding estimates for Guam, the Tutuila islands, and the Canal Zone, the total population of the United States and possessions is about 101,100,000.

Zones and Circles

The line round the earth, upon which the vertical rays fall during the first day of our summer, is called the *tropic of Cancer*. During the first day of our winter the sun shines straight down on the *tropic of Capricorn*. The belt of land and water lying between or within the tropics is called the *torrid zone*. The tropics are at about one fourth the distance from the equator to the poles.

Find the *arctic circle* on the map. Find the *ant-arctic circle*. These circles are at about one fourth the distance from the poles to the equator.

Bound the *north frigid zone*. The *south frigid zone*. The *north temperate*. The *south temperate*.

The number of degrees at which any place lies north or south of the equator is called the *latitude* of that place. The number of degrees at which any place lies east or west of a given prime meridian is called the *longitude* of the place.



The United States

STATES AND TERRITORIES	AREA IN SQUARE MILES	POPULATION (1910)
Alabama	51,998	2,138,093
Alaska	590,884	64,356
Arizona	113,956	204,354
Arkansas	53,335	1,574,449
California	158,297	2,377,549
Canal Zone ¹	436	50,000 ²
Colorado	103,948	799,024
Connecticut	4,965	1,114,756
Delaware	2,370	202,322
District of Columbia	70	331,069
Florida	58,666	752,619
Georgia	59,265	2,609,121
Guam ¹	210 ²	9,000 ²
Hawaii	6,449	191,909
Idaho	83,888	325,594
Illinois	56,665	5,638,591
Indiana	36,354	2,700,876
Iowa	56,147	2,224,771
Kansas	82,153	1,690,949
Kentucky	40,598	2,289,905
Louisiana	48,506	1,656,388
Maine	33,040	742,371
Maryland	12,327	1,295,346
Massachusetts	8,266	3,366,416
Michigan	57,980	2,810,173
Minnesota	84,682	2,075,708
Mississippi	46,865	1,797,114
Missouri	69,420	3,293,335
Montana	146,997	376,063
Nebraska	77,520	1,192,214
Nevada	110,690	81,875
New Hampshire	9,341	430,572
New Jersey	8,224	2,537,167
New Mexico	122,634	327,301
New York	49,204	9,113,614
North Carolina	52,426	2,206,287
North Dakota	70,837	577,066
Ohio	41,040	4,767,121
Oklahoma	70,067	1,667,155
Oregon	96,699	672,765
Pennsylvania	45,126	7,665,111
Philippine Islands ¹	115,026	7,635,426 ³
Porto Rico	3,435 ²	1,118,012
Rhode Island	1,248	542,610
South Carolina	30,989	1,515,400
South Dakota	77,615	583,888
Tennessee	42,022	2,184,789
Texas	265,896	3,896,542
Tutuila Islands ¹	77 ²	6,100
Utah	84,990	373,351
Vermont	9,564	355,956
Virginia	42,627	2,061,612
Washington	69,127	1,141,990
West Virginia	24,170	1,221,119
Wisconsin	56,066	2,333,860
Wyoming	97,914	145,965

¹ Not included in National Census of 1910.

² Estimated.

³ War Department Census, 1903.



Area of Oceans

	SQUARE MILES
Pacific	65,688,000
Atlantic	38,640,000
Indian	25,500,000
Antarctic	9,000,000
Arctic	4,636,000

Average Heights of Plateaus

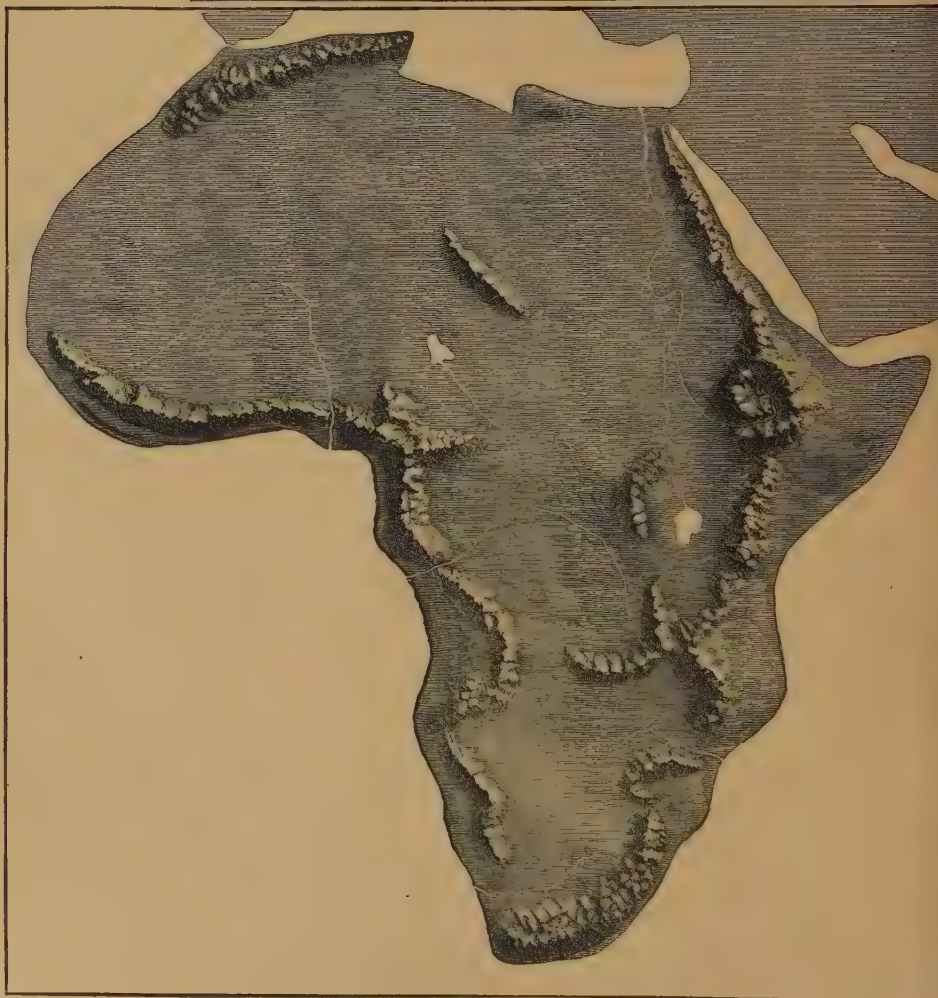
	FEET
Tibet	14,000
Bolivia	12,000
Mexico	8,000
Abyssinia	7,000
Great Basin	4,000
Gobi	4,000
Brazil	2,000
Switzerland	2,000

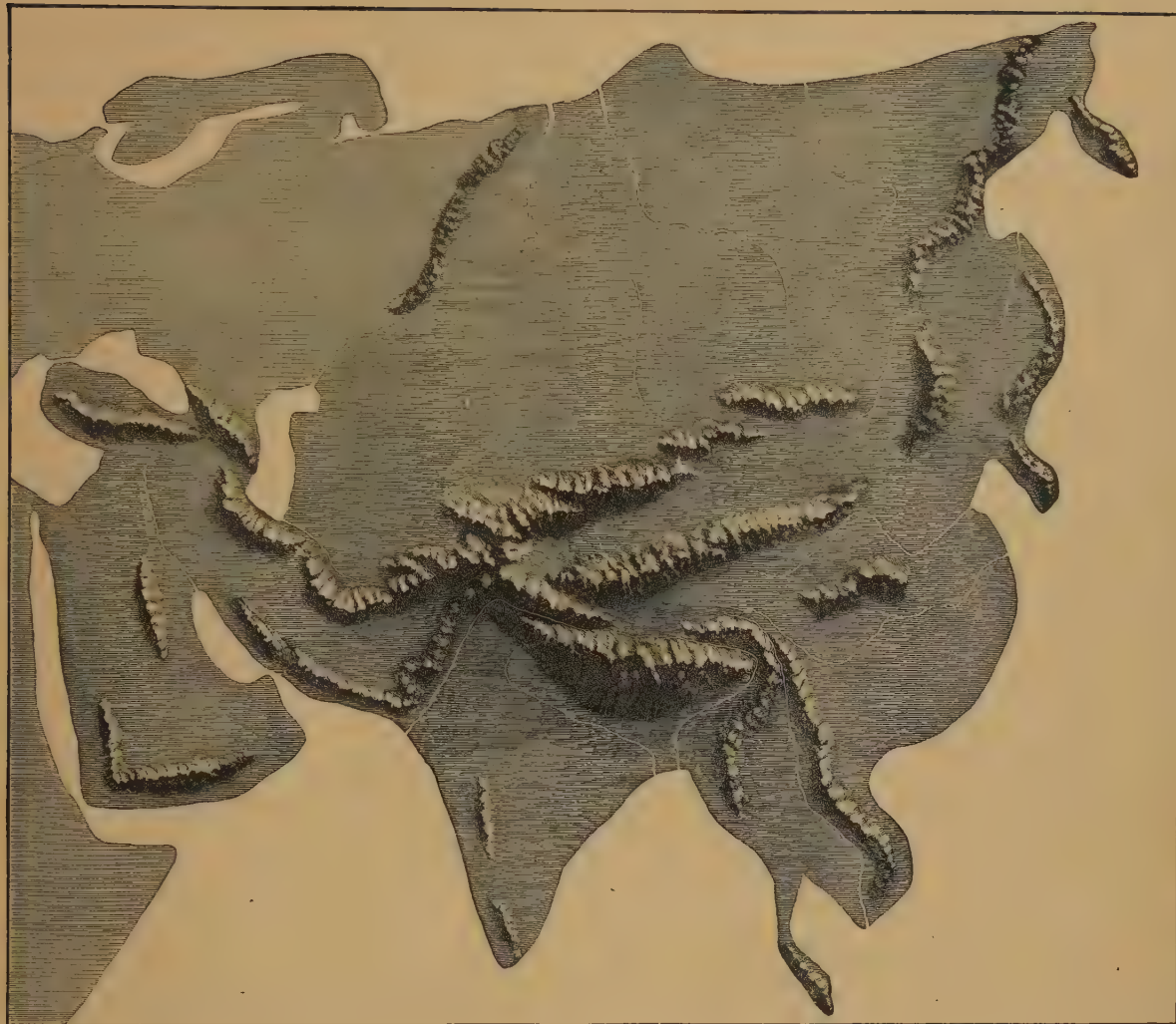


Leading Cities of the United States

POPULATION, 1910 (over 125,000)

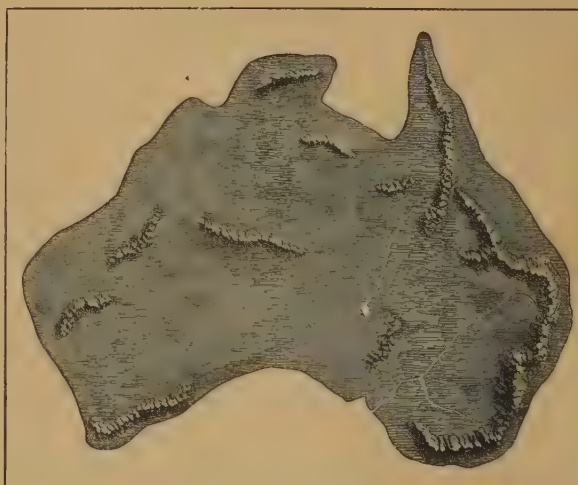
New York, N. Y.	4,766,883
Chicago, Ill.	2,185,283
Philadelphia, Pa.	1,549,008
St. Louis, Mo.	687,029
Boston, Mass.	670,585
Cleveland, Ohio	560,663
Baltimore, Md.	558,485
Pittsburgh, Pa.	533,905
Detroit, Mich.	465,766
Buffalo, N. Y.	423,715
San Francisco, Cal.	416,912
Milwaukee, Wis.	373,857
Cincinnati, Ohio	363,591
Newark, N. J.	347,469
New Orleans, La.	339,075
Washington, D. C.	331,069
Los Angeles, Cal.	319,198
Minneapolis, Minn.	301,408
Jersey City, N. J.	267,779
Kansas City, Mo.	248,381
Seattle, Wash.	237,194
Indianapolis, Ind.	233,650
Providence, R. I.	224,326
Louisville, Ky.	223,928
Rochester, N. Y.	218,149
St. Paul, Minn.	214,744
Denver, Colo.	213,381
Portland, Ore.	207,214
Columbus, Ohio	181,511
Toledo, Ohio	168,497
Atlanta, Ga.	154,839
Oakland, Cal.	150,174
Worcester, Mass.	145,986
Syracuse, N. Y.	137,249
New Haven, Conn.	133,605
Birmingham, Ala.	132,685
Memphis, Tenn.	131,105
Scranton, Pa.	129,867
Richmond, Va.	127,628
Paterson, N. J.	125,600





Heights of Noted Mountains

NAME	LOCATION	HEIGHT IN FEET
Aconcagua	Chile	23,080
Ararat	Turkey	17,260
Chimborazo	Ecuador	20,498
Dapsang	Tibet	28,278
Elburz	Russia	18,526
Everest	India	29,002
Kenia	East Africa	19,500
Kilimanjaro	East Africa	19,600
Logan	Canada	19,539
McKinley	Alaska	20,300
Mauna Loa	Hawaiian Islands	13,600
Mercedario	Mexico	22,397
Mitchell	North Carolina	6,711
Mt. Blanc	France	15,780
Pikes peak	Colorado	14,108
Popocatepetl	Mexico	17,748
Rainier	Washington	14,363
St. Elias	Canada	18,024
Shasta	California	14,380
Vesuvius	Italy	4,260
Washington	New Hampshire	6,293
Whitney	California	14,501



PRONOUNCING WORD LIST

Key: ãle, ăt, câre, ärm, final, all; ăve, ënd, hër, recënt; Ice, ıl, admiral; öld, fôr, ön, anchor; üse, üp, fûr, awful; fôöd, fööt; ch as in chop; g as in go; ng as in sing; u as in ink; th as in thin; th as in the; ũ as in banyan; oi as in oil; ow as in cow; N nearly like ng in sing (French nasal).

Aberdeen, ăb-er-dēn'.
Abyssinia, ăb-is-sin' i-g.
Acapulco, ă-kă-pool' kō.
Aconcagua, ă-kôn-kă' gwă.
Adelaide, ăd-ă-lăd.
Aden, ă-dēn.
Adirondack, ăd-i-rôn-dăk.
Adrian, ă-dri-an.
Adrianople, ăd-ri-an-ō-pl.
Adriatic, ăd-rē-ăt ik.
Ægean, ē-jē an.
Afghanistan, ăf-găn-is-tăn'.
Africa, ăf-ri-kă.
Akron, ăk-rŏn.
Alabama, ăl-ă-bă'mă.
Alamo, ăl-lă-mō.
Alaska, ăl-lăs' kă.
Albany, ăl-bă-ni.
Albamarle, ăl-bə-mărl.
Alberta, ăl-bért-ă.
Albuquerque, ăl-bō-kăr' kă.
Alderney, ăl-dər-ni.
Aleutian, ă-lū-shi-an.
Alexandria, ăl-egs-ăn-dri-ă.
Algeria, ăl-jē ri-ă.
Algiers, ăl-jēr-z'.
Allegheny, ăl-g-gă-ni.
Altai, ăl-ti.
Altoona, ăl-too'nă.
Amazon, ăm-ă-zôn.
Amiens, ă-mi-ăn.
Amsterdam, ăm-stər-dăm.
Amur, ă-moor'.
Anam, ă-năm'.
Andes, ăm-dēz.
Andorra, ăm-dōr-ră.
Androsoggin, ăm-drōs-ōg'in.
Anglesey, ăng-l-sē.
Annapolis, ăm-năp' ō-lis.
Antarctic, ăm-tărk' tîk.
Anticosti, ăm-ti-kōs'ti.
Antilles, ăm-ti-lēz, or ăm-tāl'.
Antwerp, ăm-t' werp.
Apalachicola, ă-pă-lăch-i-kō'lă.
Apennines, ăp-ən-nīnz.
Apia, ă-pē-ă.
Appalachian, ăp-pă-lă' chi-an.
Appomattox, ăp-pō-măt' tōks.
Apteryx, ăp-tē-rîx.
Arabian, ă-ră-bi-an.
Aral, ăr-ăl.
Ararat, ăr-ă-răt.
Archangel, ăr-k-ăn' jël.
Archipelago, ăr-kî-pěl' ă-gō.
Arctic, ăr-k' tîk.
Ardennes, ăr-dēn'.
Arequipa, ă-ră-kē-pă.
Argentina, ăr-jēn-tē-nă.
Arizona, ăr-i-zō nă.
Arkansas, ăr-kă-n-să'.
Armadoillo, ăr-mă-dil' lō.
Arthabaska, ăr-thă-băs' kă.
Asheville, ăsh-vil.
Asia, ă-shi-ă.
Astoria, ăs-tō ri-ă.
Astrakhan, ăs-tră-kăn'.
Atacama, ă-tă-kă' mă.
Atbara, ăt-bă-ră.
Atchison, ăt-chi-sŏn.
Athabasca, ăt-thă-băs' kă.
Athens, ăt-hēnz.
Atlanta, ăt-lăn-tă.

Atlantic, ăt-lăn'tîk.
Atoll, ăt-tōl'.
Auburn, ă-bŭrn.
Auckland, ăk-lănd.
Augusta, ă-gŭs' tă.
Au Sable, ă să-bl.
Austin, ăs-tin.
Australia, ăs-tră' li-ă.
Austria, ăs-tri-ă.
Avon, ă-vŏn.
Azof, ă-zōf'.
Azores, ă-zōr-z'.

Bahama, bă-hă'mă.
Bahia, bă-ē-ă.
Baikal, bî-kăil.
Baku, bă-kōō.
Balearic, bă-lē-ăr' ik.
Balkan, băl-kăn'.
Balkash, băl-kăsh'.
Baltic, băl-tîk.
Baltimore, băl-ti-mŏr or -mŏr.
Baluchistan, bă-lōō-chis-tăn'.
Bangkok, băng' kŏk'.
Bangor, băng-gŏr.
Barcelona, bă-r-sē-lō'nă.
Basel, bă-zēl.
Batavia, bă-tă-vi-ă.
Baton Rouge, bă-tŭn rŏōzh'.
Bayonne, bă-yŏn'.
Beatrice, bē-ă-trēs.
Beaufort, bŏ-fŏrt (N. C.) or bŭ-fŭrt (S. C.).
Bechuanaland, bēk-ŭ-ăn' ă-lănd.
Bedouin, bēd ō-ën.
Belfast, bēl făst (Me.) or bēl-făst' (Ireland).
Belgium, bēl' jî-ŭm.
Belgrade, bēl-grăd'.
Belize, bă-lēz'.
Bellaire, bēl-ăr'.
Belle Isle, bēl-il'.
Benares, bēn-ă-rēz.
Bengal, bēng-gal'.
Ben-Nevis, bēn-nēv' is.
Bering, bē-rîng.
Berlin, bēr-lin or Ger. bēr-lēn'.
Bermuda, bər-mŭ-dă.
Bern, bĕrn.
Bethlehem, bēth' lē-hēm.
Biddeford, bîd' ē-ford.
Binghamton, bîng' ăm-tŏn.
Binue, bēn-ō-ō'.
Birmingham, bĕr' mîng-ŭm.
Biscay, bîs' kă.
Bismarck, bîs' mărk.
Bogota, bŏ-gŏ-tă'.
Boise, bŏi-ză'.
Bokhara, bŏk-ă-ră.
Bolán, bŏ-lăn'.
Bolivia, bŏ-liv' i-ă.
Bologna, bŏ-lŏn' yă.
Bombay, bŏm-bă'.
Boothia, bŏŭ-thi-ă.
Bordeaux, bŏr-dŏ'.
Borneo, bŏr-nē-ō.
Bosnia, bŏz-ni-ă.
Bosphorus, bŏs-fŏ-rŭs.
Bothnia, bŏth-ni-ă.
Brahmaputra, bră-mă-pŏŭ-tră.
Brazil, bră-zîl'.
Brazos, bră-zŏs.

Bremen, bră-mĕn.
Breslau, brēs-low.
Brest, brĕst.
Brindisi, brĕn-dē-sē.
Brisbane, brîs' bân.
Brooklyn, brook' lin.
Brunswick, brŭnz' wîk.
Brussels, brŭs-sēlz.
Bucharest, bŭŏ-kă-rĕst'.
Budapest, bŭŏ-dă-pĕst.
Buenos Aires, bŏ-nŭs ă-rîz or Sp. bŭă-nŏs i-rēs.
Bulgaria, bŭŏl-gă' ri-ă.
Burlington, bŭr' ling-tŏn.
Burma, bŭr-mă.
Butte, bŭt.

Cairo, kăr' ō (U. S.); kî-rŏ (Egypt).
Calais, kăl' is (U. S.); kă-lă' (France).
Calcutta, kăl-kŭt' tă.
Caledonia, kăl-ē-dŏ-ni-ă.
California, kăl-i-fŏr-ni-ă.
Callao, kăl-lă' ō.
Cambodia, kămb-bŏ-dē-ă.
Cambridge, kămb' brîj.
Campeche, kămb-pă' chă.
Canada, kăn-ă-dă.
Candia, kăn-dē-ă.
Canton, kăn-tŏn (U. S.); kăn-tŏn' (China).
Cape Breton, brĕt' ŏn.
Caracas, kă-ră-kăs.
Cardiff, kăr-dîf.
Cardigan, kăr-dē-gan.
Caribbean, kăr-ib-bĕ-an.
Caroline, kăr-ŏ-lî-nă.
Caroline, kăr' ō-lin.
Carpentaria, kăr-pĕn-tă' ră-ă.
Cartagena, kăr-tă-jĕ-nă.
Caspian, kăs-pi-an.
Cassiquari, kă-sē-kŏ-ă-rē.
Caucasian, kă-kă-shan.
Caucasus, kă-kă-sŭs.
Cayenne, kă-yĕn'.
Celebes, sĕl' ē-bĕz.
Ceniz, sē-nē'.
Cetinje, chă-tĕn' yă.
Cevennes, sē-vĕnn'.
Ceylon, sē-lŏn'.
Chad, chăd.
Champlain, shămb-plăn'.
Charlotte, shăr-lŏt.
Chatham, chăt' ăm.
Chattahoochee, chăt-tă-hŏŏ' chē.
Chattanooga, chăt-tă-nŏŏ' gă.
Chautauqua, chă-tă' kwă.
Chelsea, chĕl-sĕ.
Cherbourg, shĕr' bŭrg.
Cherokee, chĕr-ŏ-kē.
Chesapeake, chĕs-ă-pĕk.
Cheviot, chiv' ē-ŭt.
Cheyenne, shi-ĕn'.
Chicago, shĕ-kă' gŏ.
Chile, chĕ-lă.
Chimborazo, chĭm-bŏ-ră-zŏ.
Christiania, kris-tĕ-ă-nĕ-ă.
Chugliu, chŭg' lŏŭ.
Cincinnati, sĭn-sĭn-nă'ti.
Clyde, klîd.
Cochin China, kŏ'chĭn chĭ'na.

Cohoes, kŏ-hŏz'.
Colima, kŏ-lĕ-mă.
Cologne, kŏ-lŏn'.
Colombia, kŏ-lŏm' bĕ-ă.
Colon, kŏ-lŏn'.
Colorado, kŏl-q-ră' dŏ.
Conception, kŏn-sĕp' shŭn.
Concord, kŏnk' ŭrd.
Connecticut, kŏn-nĕt' i-kŭt.
Constance, kŏn-stans.
Constantinople, kŏn-stăn' t'i-nŏ'pl.
Coosa, kŏŏ-să.
Copenhagen, kŏ-pĕn-hă' gĕn.
Cordoba, kŏr-dŏ-bă.
Corfu, kŏr-fŏŭ'.
Corinth, kŏr' inth.
Corpus Christi, kŏr' pŭs kris' tĕ.
Corrientes, kŏr-rĕ-ĕn' tĕs.
Corsica, kŏr-si-kă.
Costa Rica, kŏs-tă rĕ' kă.
Cotopaxi, kŏ-tŏ-păk' sē.
Covington, kŭv' ing-tŏn.
Cuba, kŭ-bă.
Curaçao, kŭ-ră-sŏ'.
Cuzco, kŏŏs' kŏ.
Cyprus, sî-prŭs.

Dahomey, dă-hŏ-mă.
Dakota, dă-kŏ-tă.
Dallas, dăl' ăs.
Damascus, dă-măs' kŭs.
Danzig, dănt zik.
Danube, dăn' ŭb.
Dardanelles, dăr-dă-nĕlz'.
Darfur, dăr-fŏŭr.
Darien, dă-rĕ-ĕn.
Davenport, dăv' en-pŏrt.
Decatur, dē-kă-tŭr.
Dekkan, dĕk' kan.
Delaware, dĕl-ă-wăr.
Delhi, India, dĕl' lă.
Des Moines, dĕ-mŏin'.
Des Plaines, dĕ-plăn'.
Detroit, dĕ-troit'.
Dnieper, nĕ-pĕr.
Dniester, nĕs'tĕr.
Doverfield, dŏ-vră-fyĕld'.
Drave, drăv'.
Dresden, drĕz' dĕn.
Dubuque, dŭŏ-bŭk'.
Duluth, dŭ-lŏŭth'.
Dundalk, dŭn-dăk'.
Dundee, dŭn-dē'.
Dunedin, dŭn-ĕd' in.
Dungeness, dŭn-jĕ-nĕs'.
Dwina, dŭĕ-nă.

Eau Claire, ō-klăr'.
Ebro, ē-brŏ.
Echidna, ē-kid' nă.
Ecuador, ĕk-wă-dŏr'.
Edinburgh, ĕd' ju-bŭr-ŏ.
Egypt, ē-jĭpt.
Elba, ĕl-bă.
Elbe, ĕl-bē.
Elburz, ĕl-bŏŏr-z'.
Elgin, ĕl' jĭn.
Elmira, ĕl-mi-ră.
El Paso, ĕl-pă-sŏ.
Escanaba, ĕsk-ă-nă' bă.
Etna, ĕt-nă.
Eubœa, ŭ-bĕ-ă.

Euphrates, ū-frā'tēz.
Eurasia, ū-rā'shī-ā.
European, ū-rō-pē an.
Evansville, ēv'anz-vil.
Everest, ēv'gr-ēst.
Eyre, ār.

Falkland, fāk'land.
Fezzan, fēz-zān'.
Fiji, fē'jē.
Findlay, find'lā.
Finland, fin'land.
Fiord, fyōrd.
Firth, fērth.
Florida, flōr'i-dā.
Fond du Lac, fōn-dū-lāk'.
Formosa, fōr-mō'sā.
Fort Wayne, wān.
Frankfurt, fränk'fōort.
Fraser, frā'zēr.
Fremont, frē-mōnt'.
Fresno, frēs'nō.
Fujiyama, fōo-jī-ā'mā.

Galapagos, gā-lāp'ā-gōs.
Galatz, gā'lāts.
Galveston, gāl'vēs-ton.
Galway, gāl'wā.
Ganges, gān'jēz.
Garonne, gā-rōnn'.
Genesee, jēn-ē-sē'.
Geneva, jē-nē'vā.
Genoa, jēn'ō-ā.
Georgia, jōr'jī-ā.
Gerald, hā-rāl'.
Gettysburg, gēt'jz-būrg.
Ghats, gāts.
Ghent, gēnt.
Gibraltar, jī-brāl'tar.
Gila, hē'lā.
Gironde, zhē-rōnd'.
Glasgow, glās'gō.
Gloucester, glōs'tēr.
Gobi, gō'bē.
Grampian, grām'pī-an.
Granada, grā-nā-dā.
Grand Manan, mān-ān'.
Gratz, grōts.
Greenwich, grēn'ij.
Guadalquivir, gwā-dāl-kē-vēr'.
Guadalupe, gā-dā-lōop' (U. S.);
gwā-dā-lōo-pā (Spanish).
Guatemala, gwā-tā-mā'lā.
Guayaquil, gwī-ā-kēl'.
Guernsey, gēr'n'zē.
Guiana, gē-ā'nā.
Guinea, gīn'ē.
Guthrie, gūth'rg.

Hagerstown, hā'ggr-town.
Haiti, hā'tī.
Halifax, hāl'ē-fāks.
Hanoi, hā-nō'ē.
Hanover, hān'ō-ver.
Hatteras, hāt'tēr-ās.
Havana, hā-vān'ā.
Havre, hā'vēr.
Havre de Grace, hāv'ēr dē grās.
Hawaii, hā-wī'ē.
Hebrides, hēb'rī-dēz.
Hekla, hēk'lā.
Helena, hēl'ē-nā.
Henlopen, hēn-lō'pēn.
Hérat, hēr-āt'.
Himalaya, hīm-ā'lā-yā.
Hindu Kush, hīn'dōo-kōōsh.
Hindustan, hīn-dō-stān'.
Hoboken, hō'bō-kēn.
Holyoke, hōl'yōk.
Hondo, hōn'dō.
Honduras, hōn-dōō-rās.
Hongkong, hōng-kōng'.
Honolulu, hō-nō-lōo'lōo.
Hoosac, hōō'sāk.
Housatonic, hōō-sā-tōn'ic.
Houston, hūs'tōn.

Hue, hōō-ā'.
Humboldt, hūm'bōlt.
Hungary, hūn'gā-rī.
Huron, hū'rōn.
Hwang ho, hwāng hō'.
Idaho, ī'dā-hō.
Illimani, ēl-yē-mā'nē.
Illinois, il-lī-noi' or -noiz'.
India, in'dī-ā.
Indiana, in-dī-ān'ā.
Indianapolis, in-dī-ān-āp'q-lis.
Indes, in'dēz.
Indus, in'dūs.
Innsbruck, ins'prook.
Inverness, in-ver-nēss'.
Ionian, ī-ō-nī-an.
Iowa, ī-ō-wā.
Iquique, ē-kē-kā.
Iran, ē-rān'.
Irkutsk, īr-kōōtsk'.
Isle Royal, ēl rwā-yāl'.
Italian, ī-tāl'yan.
Itasca, ī-tās'kā.
Ithaca, ith'ā-kā.

Jalapa, hā-lā-pā.
Jamaica, jā-mā'kā.
Japan, jā-pān'.
Jassy, jā'sē.
Java, jā'vā.
Jersey, jēr'zī.
Joliet, jō'lē-ēt.
Joplin, jōp'līn.
Juan de Fuca, hōō-ān' dā fōō'kā.
Juan Fernandez, fēr-nān'dēth.
Juneau, jū-nō'.
Jungfrau, yōōng'frow.
Juniata, jū-nī-āt'ā.
Jura, jū'rā.

Kabul, kā-bōol'.
Kadiak, kād-yāk'.
Kaffir, kāf'fēr.
Kalahari, kā-lā-hā'rī.
Kamchatka, kām-chāt'kā.
Kamerun, kā-mēr-ōōn'.
Kanawha, kā-nā-wā.
Kankakee, kān-kā-kē'.
Kansas, kān'sās.
Karakoram, kā-rā-kō'ram.
Karpathian, kār-pā'thī-an.
Kashmir, kāsh-mēr'.
Kenia, kā-nē'ā.
Kennebec, kēn-ē-bēk'.
Kentucky, kēn-tūk'ī.
Keokuk, kē'ō-kūk.
Khaibar, kā'ē-bār.
Khartum, kār-tōom'.
Khelat, kēl-āt'.
Khintan, kīn-gān'.
Khiva, kē'vā.
Kilauea, kē-low-ā'ā.
Kilimanjaro, kīl'ē-mān-jā-rō'.
Killarney, kīl-ār'nī.
Kiolen, kyū'lēn.
Kirghiz, kīr-gēz'.
Kittery, kīt'ēr-ī.
Klamath, klā'math.
Klondike, klōn'dīk.
Knoxville, nōks'vil.
Kongo, kōng'gō.
Kordofan, kōr-dō-fān'.
Korea, kō-rē'ā.
Krakow, krā'kō.
Kronstadt, krōn'stāt.
Kuenlun, kwēn-lōōn'.
Kyoto, kē-ō'tō.

Latador, lāb-rā-dōr'.
Lachine, lā-shēn'.
La Crosse, lā-krōs'.
Ladoga, lād'ō-gā.
Ladrones, lā-drōnz'.
Lafayette, lā-fā-ēt'.
La Guaira, lā-gwī'rā.

Lancaster, lānk'as-tēr.
Lansing, lān'sīng.
La Paz, lā-pāth'.
Lapland, lāp'land.
La Plata, lā-plā'tā.
Laporte, lā-pōrt'.
Laramie, lār'ā-mē.
Lasalle, lā-sāl'.
Lassa, lās'sā.
Las Vegas, lās-vā'gās.
Leadville, lēd'vil.
Leavenworth, lēv'en-wōrth.
Lebanon, lēb-ā-nōn.
Leicester, lēs'tēr.
Leipzig, lēp'zīk.
Lena, lē'nā.
Leone, lē-ō'nē.
Lexington, lēk'sīng-tōn.
Liberia, lī-bē'rī-ā.
Libyan, līb'ē-an.
Liege, lē-āzh'.
Lima, lī'mā (U. S.); lē'mā (Peru).
Limerick, līm'ēr-īk.
Lisbon, līz'bōn.
Lisburn, līs'būrn.
Lisle, lēl.
Liverpool, līv'ēr-pōol.
Londa, lō-ān'dā.
Loch, lōk.
Lofoden, lō-fō'dēn.
Loire, lwār.
Los Angeles, lōs-ān'gēl-ēs.
Louisiana, lōō-ē-zē-ā'nā.
Louisville, lōō'is- or lōō'ī-vīl.
Lourenço Marquez, lō-rēn'sō mār-kēs'.
Lucerne, lōō-sēr'n'.
Luray, lū-rā'.
Luxemburg, lūks'ēm-būrg.
Luzon, lōō-zōn'.
Lyon, lē-ōn'.

Macao, mā-kow'.
Mackenzie, mā-kēn'zī.
Mackinac, māk'ī-nā.
Macon, mā'kun.
Madagascar, mād-ā-gās'kār.
Madeira, mā-dē'rā.
Madras, mā-drās'.
Madrid, mād'rid (U. S.); mā-drīd' (Spain).
Magdalena, māg-dā-lā'nā.
Magellan, mā-jēl'an.
Maine, mān'.
Makassar, mā-kās'sār.
Malakka, mā-lāk'ā.
Malay, mā-lāy'.
Malden, mōl'dēn.
Manchester, mān'chēs-tēr.
Manchuria, mān-chōō'rē-ā.
Mandalay, mān-dā-lā.
Manila, mā-nīl'ā.
Manitoba, mān-ī-tō'bā.
Maracaibo, mā-rā-kī'bō.
Marathon, mā-rān'yōn.
Marcey, mār'sī.
Marmora, mār'mō-rā.
Marseille, mār-sāl'.
Martinique, mār-tī-nēk'.
Maskat, mās-kāt'.
Massachusetts, mās-ā-chū'sēts.
Matabeleland, māt-ā-bēl'land.
Matagorda, māt-ā-gōr'dā.
Matamoros, māt-ā-mō'rōs.
Matapan, mā-tā-pān' (Gr.).
Mauch Chunk, māk-chūnk'.
Mauna Kea, mow-nā-kā'ā.
Mauna Loa, lō'ā.
Mauritius, mā-rīsh'īs.
Mediterranean, mēd'ī-tēr-rā'nē-an.
Mekong, mā-kōng'.
Melanesia, mēl-an-ē'shī-ā.
Melbourne, mēl'būrn.
Memphremagog, mēm-frē-mā'gōg.
Memphis, mēm'fis.

Mendocino, mēn-dō-sē'nō.
Meriden, mēr'ī-dēn.
Merrimack, mēr'ī-māk.
Mersey, mēr'zī.
Merthyr-Tydfil, mēr-thēr-tīd'fīl.
Messina, mēs-sē'nā.
Metz, mēts.
Mexico, mēks'ī-kō.
Miami, mī-ām'ī.
Michigan, mīsh'ī-gan.
Micronesia, mī-krō-nē'shī-ā.
Milan, mīl'an or mī-lān'.
Mille Lacs, mēl-lāk'.
Milo, mē'lō (Greece).
Milwaukee, mīl-wā'kē.
Mindanao, mēn-dā-nō.
Minneapolis, mīn-ē-āp'q-lis.
Minnehaha, mīn-ē-hā'hā.
Minnesota, mīn-ē-sō'tā.
Mississippi, mīs-īs-pī'ī.
Missouri, mīs-ōō'rī.
Mobile, mō-bēl'.
Mohave, mō-hā'vā.
Mohawk, mō'hāk.
Moluccas, mō-lūk'kāz.
Mongolia, mōng-gō'lī-ā.
Monongahela, mōn-nōn-gā-hē'lā.
Monrovia, mōn-rō'vī-ā.
Montana, mōn-tā'nā.
Montauk, mōn-tāk'.
Mont Blanc, mōn blōn' or mōnt blānk.
Mont Cenis, mōn'sē-nē' or mōnt.
Montenegro, mōn-tā-nā'grō.
Monterey, mōn-tēr-ā'.
Montevideo, mōn-tē-vid'ē-ō.
Montgomery, mōnt-gūm'ēr-ī.
Monticello, mōnt-tē-sēl'lō.
Montpelier, mōnt-pē'lī-ēr.
Montreal, mōnt-rē'al'.
Moravia, mō-rā'vī-ā.
Morelia, mō-rā'lē-ā.
Morocco, mō-rōk'ō.
Moscow, mōs'kō.
Mount Lyell, lī'ēl.
Mount St. Elias, ē-lī'ās.
Mount Tyndall, tīn'dāl.
Mozambique, mō-zām-bēk'.
Munich, mū'nīk.
Murray, mūr'rā.
Muskatine, mūs-kā-tēn'.
Muskegon, mūs-kē'gōn.

Nanling, nān'ling.
Nantes, nānts.
Nantucket, nān-tūk'ēt.
Naples, nā'plz.
Narragansett, nār-rā-gān'sēt.
Nashua, nāsh'ū-ā.
Nassau, nās'sā.
Natchez, nā'chēz.
Nebraska, nē-brās'kā.
Nepal, nā-pāl'.
Netherlands, nēth'ēr-landz.
Neuse, nūs.
Nevada, nē-vā'dā.
Newark, nē'ark.
Newfoundland, nū'fōnd-land.
New Guinea, 'gīn'ē.
New Hampshire, nū-hāmp'shīr.
New Orleans, -ōr'lē-ānz.
New Zealand, nū-zē'land.
Niagara, nī-āg-ā-rā.
Nicaragua, nē-kā-rā'gwā.
Nice, nēs.
Niger, nī'jer.
Norfolk, nōr'fōk.
Norwegian, rōr-wē'jī-an.
Norwich, nōr'rīj.
Nottingham, nōt'īng-am.
Nova Scotia, nō'vā skō'shī-ā.
Nova Zembla, nō'vā zēm'blā.
Nubia, nū'bī-ā.
Nyanza, nī-ān'zā.

Oahu, ō-ā'hōo.

Oakland, ɔk'land.
Oasis, ɔ'ā-sīs.
Ob, ɔb.
Oder, ɔ'der.
Odessa, ɔ-dēs'sə.
Ogden, ɔg'dēn.
Okchobee, ɔ-kē-chō'bē.
Okhotsk, ɔ-kōtsk'.
Oklohoma, ɔk-lā-hō'mə.
Olympia, ɔ-lim'pī-ə.
Olympus, ɔ-lim'pūs.
Omaha, ɔ'mə-hə.
Oman, ɔ-män'.
Omsk, ɔmsk.
Onega, ɔ-nē'gə.
Oneida, ɔ-nī'də.
Ontario, ɔn-tā-rī-ō.
Oregon, ɔr'eg-ɔn.
Orinoco, ɔ-rī-nō'kō.
Orizaba, ɔ-rē-thā'bā.
Orkney, ɔrk'nē.
Orleans, ɔr-lā-ɔns' (Fr.).
Ornithorynchus, ɔr-nī-thō-rin'kūs.
Oshkosh, ɔsh'kōsh.
Oswego, ɔs-wē'gō.
Ottawa, ɔt-tə-wə.
Ozark, ɔ-zārk'.

Pacific, pə-sif'ik.
Palermo, pə-lēr'mō.
Palestine, pāl'ēs-tīn.
Pamir, pə-mēr'.
Pamlico, pām'li-kō.
Pampas, pām'pās.
Panama, pān-ə-mā'.
Papua, pāp'oo-ə.
Para, pə-rā'.
Paraguay, pə-rā-gwī'.
Paramaribo, pər-ə-mār'ī-bō.
Parana, pə-rā-nā'.
Passaic, pās-sā'ik.
Passamaquoddy, pās-ə-mə-kwōd'ī.
Patagonia, pāt-ə-gō'nī-ə.
Paterson, pāt'ər-sɔn.
Patras, pā-trās'.
Pawtucket, pə-tūk'ət.
Pecos, pē-kōs.
Pedee, pē-dē'.
Peking, pē-kīng'.
Peling, pē-līng'.
Pennsylvania, pēn-sil-vā'nī-ə.
Penobscot, pē-nōb'scɔt.
Pensacola, pēn-sə-kō'lə.
Peoria, pē-ō'ri-ə.
Pernambuco, pēr-nām-bōō'kō.
Persia, pēr'shī-ə.
Perth, pērth.
Peru, pē-roō'.
Petrograd, pēt'rɔ-grād.
Phoenix, fē'nīks.
Philadelphia, fil-ə-dēl'fī-ə.
Philippine, fil'ip-in.
Pierre, pēr.
Pindus, pīn'dūs.
Pittsburgh, pīt'sbūrg.
Plata, plā'tə.
Plymouth, plīm'ūth.
Pnum Penh, pnūm-pēn'.
Pompeii, pōm-pā'yē.
Popocatepetl, pō-pō'kāt-ə-pā-tīl.
Port au Prince, pōrt-ō-prīns'.
Porto Rico, pōrt-ō-rē'kō.
Port Said, -sā-ed'.
Portsmouth, pōrts'mūth.
Portugal, pōr'tū-gal.
Portuguese, pōr'tū-gēz.
Potomac, pō-tō'mək.
Potosi, pō-tō'sī.
Poughkeepsie, pō-kīp'sī.
Prague, præg.
Pretoria, prē-tōr'ē-ə.
Pribilof, prē-bē'lōf'.
Providence, prōv'ī-dēns.
Prussia, prūsh'yə.
Puebla, pwēb'lā.
Pueblo, pwēb'lō.

Puget, pū'jet.
Puno, pōō'nō.
Pyrenees, pīr'eg-nēz.
Quebec, kwē'bēk'.
Quincy, kwīn'zī.
Quito, kē'tō.
Racine, rə-sēn'.
Rainier, rā'nēr.
Raleigh, rə'lə.
Rangoon, rān-gōon'.
Rappahannock, rāp-ə-hān'ɔk.
Ravenna, rə-vēn'ə.
Reading, rēd'īng.
Rhine, rīn.
Rhône, rōn.
Riga, rī'gə (U. S.); rē'gā (Rus.).
Rio Grande, rē'ō grān'dā.
Rio de Janeiro, de jā-nā-rō.
Rio Negro, -nā grō.
Roanoke, rō-ə-nōk'.
Rochester, rōch'əs-tər.
Rotterdam, rōt'gr-dām.
Rouen, rōō'ɔn'.
Roumelia, rōō-mē'lə-ə.
Roumania, rōō-mā'nī-ə.
Russia, rūsh'ə.

Saco, sə'kō.
Sacramento, sāk-rə-mēn'tō.
Saginaw, sāg'i-nā.
Sahara, sā-hā-rə.
Saigon, sā'ē-gōn.
Saint Albans, sānt'al-banz.
Saint Augustine, -ə gūs-tēn.
Saint Croix, -kroi'.
Saint Gotthard, -gō-tārd'.
Saint Helena, sēnt'hē-lē-nə.
Saint Lawrence, sānt'lə-rēns.
Saint Louis, -loo'is or -loo'ī.
Saint Petersburg, -pē'tər-z-būrg.
Saint Roque, -rōk.
Sakhalin, sā-khā-lēn'.
Salisbury, salz'ber-ī.
Saloniki, sā-lō-nē'kē.
Salvador, sāl-vā-dōr'.
Salzburg, sālts'bōorg.
Samarkand, sām-ər-kānd'.
Samoa, sā-mō'ā.
San Antonio, sän-ān-tō'nī-ō.
San Bernardino, -bēr-nār-dē'nō.
San Cristobal, -krēs-tō'bāl.
Sandhurst, sänd'hurst.
San Diego, sän-dē-ə'gō.
Sandusky, sän-dūs'kī.
San Francisco, -frān-sīs'kō.
San Joaquin, sän hō-ā-kēn'.
San Jose, -hō-sā'.
San Juan, -hoo-ān'.
San Lucas, -loo'kəs.
San Luis, -loo'ēs'.
San Marino, -mā-rē'nō.
Santa Barbara, sän'tə-bār-bə-rə.
Santa Fe, -fā.
Santee, sän'tē'.
Santiago, sän-tē-ə'gō.
Santo Domingo, sän'tō-dō-mēn'gō.
Saône, sōn.
Saratoga, sār-ə-tō'gə.
Sardinia, sār-dīn'ī-ə.
Saskatchewan, sās-kāch'ə-wān.
Sault Sainte Marie, sōō'sēnt mā'rī.
Savannah, sə-vān'ə.
Scandinavia, skān-dī-nā'vī-ə.
Schenectady, skē-nēk'tə-dē.
Scilly, sil'ī.
Scotland, skōt'land.
Scranton, skrān'tɔn.
Seattle, sē-āt'l.
Sedalia, sē-dā'lī-ə.
Seine, sän.
Seneca, sēn'ə-kə.
Senegal, sēn'egəl'.
Senegambia, sēn-ə-gām'bī-ə.
Seoul, sā-ool'.

Serbia, sēr'bī-ə.
Severn, sēv'ern.
Shanghai, shāng-hā'ī.
Shannon, shān'ɔn.
Shasta, shās'tə.
Sheffield, shēf'feld.
Shenandoah, shēn-ān-dō'ə.
Shetland, shēt'land.
Shoshone, shō-shō'nē.
Shreveport, shrēv'pōrt.
Siam, si-ām'.
Siberia, si-bē'rī-ə.
Sicily, sis'ī-lī.
Sierra Madre, sē-ēr'ə-mā'drā.
Singapore, sīng-ə-pōr'.
Sioux, soo.
Sitka, sit'kə.
Smyrna, smēr'nə.
Snowdon, snō'dɔn.
Sofia, sō-fē-ə.
Sokoto, sō-kō-tō'.
Solway, sōl-wā.
Somali, sō-mā'lē.
Somerville, sūm'ər-vīl.
Stanley, stān-lē'.
Stanovoi, stā-nō-voi'.
Steubenville, stū-ben-vīl.
Stirling, stēr'ling.
Stockholm, stōk'hōlm.
Strassburg, strāz'būrg.
Stuttgart, stōot'gärt.
Suakin, swā'kīn.
Sudan, sūdān'.
Suez, soo-ēz'.
Suisun, soo-ē-sōon'.
Sulaiman, soo-lā-e-mān'.
Sumatra, soo-mā'trā.
Sunda, sūn-də.
Sunderland, sūn'dər-land.
Susquehanna, sūs-kwē-hān'ə.
Suwannee, sū-wā-nē.
Swansea, swōn'sē.
Sweden, swē'den.
Switzerland, swīt-zər-land.
Sydney, sid'nī.
Syracuse, sir'ə-kūs.
Syria, sir'ī-ə.

Tabriz, tā-brēz'.
Tacoma, tā-kō-mā.
Tagus, tā'gūs.
Tahoe, tā-hō'.
Tahlequah, tā'lē-kwā.
Tallahassee, tāl-ə-hās'ē.
Tampa, tām-pə.
Tampico, tām-pē'kō.
Tananarivo, tā-nā-nū-rē-vō.
Tanganyika, tām-gān-yē'kā.
Tarim, tā-rēm'.
Tashkend, tāsh-kēnd'.
Tasmania, tās-mā-nī-ə.
Taunton, tām'tɔn.
Taurus, tə'rūs.
Tehad, chād.
Teheran, tē-hrān'.
Tehuantepec, tā-wān-tā-pēk'.
Tennessee, tēn-nēs-sē'.
Terre Haute, tēr-ə-hōt'.
Thames, tēmz.
Tiber, tī'ber.
Tibet, tī-bēt' or tīb'ēt.
Tien Shan, tē-ān'shān.
Tientsin, tē-ān'tsēn.
Tierra del Fuego, tē-ēr-rā-dēl-fwā'gō.
Tiflis, tif-lēs'.
Tigris, tī'grīs.
Timbuktu, tīm-bōōk'tōō.
Titicaca, tit-ē-kā'kā.
Tocantins, tō-kān-tēns'.
Tokyo, tō-kē-ō.
Toledo, tō-lē-dō.
Tombigbee, tōm-bīg'bē.
Tonga, tōng-ə.

Topeka, tō-pē'kə.
Toronto, tō-rōn'tō.
Torrens, tōr'rēns.
Toulon, too'lōn.
Toulouse, too'lōoz'.
Transvaal, trāns-vāl'.
Traverse, trāv'ers.
Trieste, trē-ēst-ə.
Trinidad, trin'ī-dād'.
Tripoli, trīp'q-lī.
Tucson, tū-sōn'.
Tulare, tōō-lā-rē.
Tunis, tū'nīs.
Turin, tū'rīn.
Turkestan, too'r-kīs-tān'.

Ucayale, oo-kī-ā'lā.
Uinta, ū-in'tə.
Ujiji, ū-jī-jē.
Ural, ū-rāl.
Uruguay, ūō-rōō-gwī'.
Utah, ū-tā or ū-tə.
Utica, ū-tī-kə.
Valdai, vāl'dī.
Valencia, vā-lēn'shī-ə.
Valparaiso, vāl-pā-rī-sō.
Vancouver, vān-kōō'vər.
Vega, vē'gə.
Venezuela, vēn-ə-zwē'lə.
Venice, vēn'is.
Vera Cruz, vā'rā krōōs'.
Verde, vērd.
Vermont, vēr-mōnt'.
Vesuvius, vē-sū-vī-ūs.
Vienna, vē-ēn'ə.
Vincennes, vīn-sēnz'.
Virginia, vēr-jīn'ī-ə.
Vistula, vīs'tū-lə.
Viti Levu, vē'tē-lā-vōō.
Vladivostok, vlā-dē-vōs-tōk'.
Volga, vōl'gā.
Vosges, vōzh.

Wabash, wə'bāsh.
Wachusett, wə-chū'set.
Waco, wā'kō.
Warsaw, wər'sə.
Wasatch, wə'sāch.
Waterloo, wə-tər-lōō.
Welland, wēl'ənd.
Wellington, wēl'īng-tɔn.
Wenner, wēn'ər.
Wetter, vēt'tər.
Wichita, wīch'ī-tə.
Wilkesbarre, wīlks'bār-ī.
Willamette, wī-lā-mēt.
Wilmington, wīl'mīng-tɔn.
Winnepeaukee, wīn-ē-pē-sə'kē.
Winnipeg, wīn'ī-pēg.
Winona, wī-nō'nə.
Winooski, wī-nōōs'kī.
Wisconsin, wīs-kōn'sīn.
Woonsocket, wōōn-sōk'ət.
Worcester, wōōs'tər.
Wyoming, wī-ō'mīng.

Yablonoi, yā-blō-noī'.
Yakima, yāk'ī-mā.
Yakutak, yā-kōōtsk'.
Yangtze, yāng'tzē.
Yarkand, yār-kānd'.
Yazoo, yā-zōō'.
Yenisei, yēn-ē-sā'ē.
Yesso, yēs'sō.
Yokohama, yō-kō-hā'mā.
Yonkers, yōnk'ers.
Yosemite, yō-sēm'ī-tē.
Yucatan, yōō-kā-tān'.
Yukon, yōō'kōn.

Zambezi, zām-bā-zə.
Zanzibar, zān'zī-bār.
Zululand, zōō'lōō-land.
Zurich, tsū'rīk.
Zuider Zee, zoi'dər zā'.

